

NOTICE OF APPROVAL

This code of practice entitled the Organisation and Management of Health and Safety in Construction has been approved by the Board of Industry under SECTION 13 of the Health and Safety at Work (General) (Guernsey) Ordinance, 1987 for the purpose of providing practical guidance with respect to the requirements of that ordinance and the Safety of Employee's (Miscellaneous Provisions) Ordinance, 1952, the Safety of Employees (First-Aid and Welfare) Ordinance, 1954, the Safety of Employees (Woodworking Machinery) Ordinance, 1959, the Public Highways Ordinance, 1967, the Safety of Employees (Electricity) Ordinance, 1956. The Guidance has particular application to persons who work in, or are involved with the building and construction sector and the allied trades and suppliers who are associated with this type of work.

The Boards approval is to take effect upon 11th July 1996.



D Evans
President Board of Industry

EXPLANATORY NOTE

An approved Code of Practice supplements statutory provisions by providing guidance on the general duties imposed under the 1987 Ordinance.

Failure to comply with an Approved Code of Practice is not an offence in itself but is admissible as proof that the defendant has failed to comply with a statutory requirement to which the code is relevant, unless the defendant can demonstrate that he complied with that statutory requirement in some alternative and equally effective way.

**The Organisation &
Management of
Health & Safety
in Construction**

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Section 1 **INTRODUCTION**

Construction and building work is by its very nature a high-risk occupation. Persons involved in this sector have to work in arduous conditions, often exposed to the elements, in a constantly changing workplace, which is taking form and shape as a result of their activities.

The type of work has an enormous range e.g., house building, to bridges, to sea defence work to multi-storey office blocks to underground tunnels and sewers to name but a few. Similarly there are an equally diverse number of skills and trades involved in the construction and supply chain.

There is a huge dependence on temporary structures, access equipment, excavation support, lifting equipment etc., for construction purposes and there are always very fine balances between various trades and operations which are proceeding independently but within an interdependent plan. Slight miscalculations, errors or even work out of sequence, can have disastrous consequences for both the persons involved or other contractors or work people on site.

For these reasons it is vitally important that significant attention is given to the organisation and management of health and safety procedures for construction activities. All too often this has not been the case in the past, which has led to a poor safety record in the industry.

This Code establishes practical guidance as to how various categories of persons or organisations involved in construction activities should organise and manage their health and safety responsibilities, and in addition sets out the detailed safety standards for specific activities. Part 1, Section 1 of the 1987 Ordinance deals with the general duties of employers to their employees and the organisational arrangements for ensuring their health & safety. Part 11 of this Code contains detailed information on how these duties are to be interpreted and implemented for different categories of work. Where the construction works are of significant size or are inherently "high risk" the management and organisational requirements are comprehensive and are modeled on current practices contained in UK & European Legislation as a result of the Construction, Design and Management Regulations. However, the Code does not seek to mirror the UK requirements in their entirety and restricts itself to matters, which are germane to the current state of development of Health and Safety in Guernsey. By far the greatest proportion of construction work in Guernsey is simple and straightforward building and allied activities and this will NOT require detailed safety plans, risk assessments or method statements. All that is required in these circumstances is effective safety management and compliance with the relevant safety standards, which are clearly set out in Part III of this ACOP.

The present statutory authorities for the requirements dealt with in the Code lie in Part 1, Section 1 of the 1987 Ordinance and Parts III and IV of the 1952 Ordinance which relate particularly to building operations.

The fundamental principles in the Code are that Clients and Contractors must plan proactively for the risks likely to be encountered on each project they undertake and this demands an effective safety organisation, safety policy, safety standards, risk assessment process, safety management and monitoring both before and during the progress of the work to ensure that the correct procedures and standards are followed.

There is secondary advice for associated activities and classes of persons who are involved in the events leading up to the construction process and whose actions can affect the safety conditions, e.g. Clients and Architects.

Finally, it should be emphasised from the outset that the guidance contained in this Approved Code of Practice applies to every company, sub-contractor, self employed person and every individual employed in one of the many facets of the construction industry. Moreover, the guidance is aimed at the employer, all levels of management, all professionals, tradesmen, the unskilled and the apprentice just setting out on his career in this important industry. Everyone on a building site has his or her part to play in reducing the frequency and severity of injuries and dangerous occurrences. Some Parts of the Code are specifically aimed at large companies and employers of a significantly large workforce; the Code would be lacking if it did not address this section of the industry. However, there are very important elements of Parts I, II and IV, and most importantly all Sections of Part III, which apply to the small company and to the self-employed. There are messages, lessons and above all guidance for everyone in construction in this important document.

Section 2

MEANING OF EXPRESSIONS & TERMS USED IN THIS CODE OF PRACTICE

ACCIDENT

The underlying cause of accidents is human behaviour, i.e. incompetence, negligence, laziness, tiredness, etc. Accidents are unplanned events in a series of planned events. The accident can lead to damage, injury, dangerous occurrence or a near miss. It is important to recognise that personal injury, and damage to property or plant, result from an unplanned event.

ACTIVE SAFETY MANAGEMENT

In this case, management is committed to preventing accidents and therefore injuries and/or ill health. Management assesses the risk and takes action up front to reduce the chance of injury. Active management guards a machine; passive management does not replace the damaged guard or relies on employees wearing eye protection in situations where protective screens would have been more effective.

COMPETENT PERSON

This implies that, as a result of experience, training or instruction a person is fit to undertake a certain task without the need for supervision. Competency in one task does not ensure that person is competent to undertake a different task. Levels of competence may improve with additional experience and training, or they remain static or diminish if training does not keep pace with technical or product developments

CONTRACTORS

Contractor means any person who carries on a trade, business or other undertaking (whether for profit or not) in connection with which he: -

- a) Undertakes to, or does, carry out or manage construction work.
- b) Arranges for any person at work under his control (including, where he is an employer, any employee of his) to carry out or manage construction work.

DANGEROUS OCCURRENCE

An unplanned event, reportable in law to the Guernsey Health and Safety Executive. There are two categories of Dangerous Occurrence set down in Schedule 2, Parts 1 and 2 of the 1987 Ordinance. Part 1 refers to Dangerous Occurrences of a general kind including the collapse or overturning of lifting machinery, collapse of scaffolding or building or structure, and explosions. The full list of reportable Dangerous Occurrences is contained in the text to the law mentioned above, and in a booklet entitled "Reporting an Injury, Disease or Dangerous Occurrence" (pages 19 - 29 inclusive) available free of charge from the Guernsey Health and Safety Executive. Schedule 2, Part 2 refers to Dangerous Occurrences in relation to Quarries. Also refer to Part IV, Section 14 of this ACOP.

GENERAL REGISTER

In accordance with the provisions of the Health, Safety and Welfare of Employees Law, 1950, employers of labour are required to maintain a record of certain tests, inspections and occurrences specified in Ordinances under the Law. These include lifting appliances, cranes, and electrical tests, excavations, scaffold inspections and accidents. The General Register contains forms, which allow employers and contractors to comply with these requirements. The General Register should be kept in site offices on large sites, or in the office where work is on a smaller scale.

HAZARD

A hazard has the potential to harm and as it is associated with degrees of danger, it can be quantified, e.g. very slightly hazardous. A tower crane with its jib, slinging and loads is very hazardous to those working in the vicinity. Many substances used on site are hazardous.

HAZARDOUS SUBSTANCES

These can adversely affect a worker very rapidly or may give rise to "slow accidents", those that develop and occur over a period of time, often many years, and result in health impairment or disease. There are thousands of harmful substances ranging in scale from very toxic to irritant. By law, hazard symbols will be found on the packaging and the supplier is required to list the characteristics of the product on a readily available Hazard Sheet. For further reference, see Part III Section 10 No. 11 - Hazardous Substances.

INCOMPETENCE

This results from a lack of knowledge or understanding, and implies that a person is not suitable to undertake a task until he has become more competent.

METHOD STATEMENT/PERMIT TO WORK

A document prepared specifically to cover the activities of one operation or group of workers on site. A Method Statement will detail the type of work, the sequence of events, the personnel involved, reporting procedures, equipment, personal protective equipment to be used, and other relevant information to ensure that the work is completed safely and without risk to health. Method Statements are written for high-risk activities such as steel erection, excavation, and use of explosives, asbestos removal and the like. Method Statements may lead to the issuing of Permits to Work, which confirm the methods outlined in the planning of the statement, and give permission for competent named personnel to undertake the work.

NEGLIGENCE

Where a person does not follow recognised safety procedures, or the advice, information or training that has been offered to that person.

PRINCIPAL CONTRACTOR

Principal Contractor means the contractor appointed by the Site Owner, Client, Developer, Architect or Project Manager to carry out or manage construction work specified in the contract. In circumstances where the Site Owner, Client, Developer, Architect or Project Manager do not make such an appointment but take direct control of the management of the construction activities, then they themselves will be deemed to be the Principal Contractor. In such cases, he has to ensure that contractors and self-employed persons are competent and adequately resourced to undertake the sub-contract work and co-ordinate the activities of all contractors so that they comply with the relevant health and safety standards. Where applicable the Principal Contractor is also responsible for developing the Safety Plan.

PROACTIVE

The concept that enables employers and managers to anticipate and prevent accidents, or reduce their effects, by actively addressing all matters relating to health and safety in the workplace.

RISK

This is the chance of something adverse happening, Le. it is the probability of a hazard occurring. The risk to those working near a tower crane is greater if the tackle is not inspected as legally required or incorrectly slung. The risk associated with the use of hazardous substances is increased if used in a confined space. The result of taking risks can be fortuitous or disastrous, or anything between these two extreme states.

RISK ASSESSMENT

This is where management identify all known or perceived hazards, and estimates the risks arising from them with a view to their control or avoidance. To assist management decisions relating to risk control, the probability and frequency associated with the hazard are compared, quantified and listed.

SAFETY CO-ORDINATOR

The Safety Co-ordinator means the person appointed by the Principal Contractor to co-ordinate the health and safety management on site and develop the safety strategy.

SAFETY PLAN

A document created specifically for one contract, which sets down the legal framework and safety guidance in relation to all planned operations during the period of the contract. Created in advance of the start of site work, by the Principal Contractors, who appoints a Safety Co-ordinator to oversee the implementation of the plan and all aspects of health and safety on site.

SAFETY POLICY

A written document, required in law by those employing five or more persons, which sets down the organisational procedures and arrangements for safe systems of work relating to the activities of the organisation. The law requires the Safety Policy contents to be made known to the employees, and its contents to be revised and updated as and when necessary.

SAFE SYSTEMS OF WORK

Safety Policies, Method Statements, all health and safety management initiatives, recognise the risks associated with the interaction of men and plant and materials. Safe systems of work are designed to reduce the risk of the interface between men working with their colleagues and with anything that may injure or cause ill health.

SELF EMPLOYED PERSONS

Self Employed Persons means any person who is not directly employed by another contractor but carries out work on the contract. Whilst on site self-employed persons are responsible to the Principal Contractor for their activities and safety performance.

SO FAR AS IS REASONABLY PRACTICABLE

A phrase frequently used in the 1987 Ordinance. The term recognises that there is a balance between the degree of danger in an activity and the cost of reducing or eliminating the risk associated with that activity. The onus is thus placed on the employer to show that he has acted reasonably towards the health and safety of his employees.

Full title for abbreviated Ordinances used in the text.

1952 Safety of Employees....	The Safety of Employees Miscellaneous Provisions) Ordinance, 1952
1954 First Aid and Welfare....	The Safety of Employees (First-Aid and Welfare) Ordinance, 1954
1959 Woodworking Machinery...	The Safety of Employees (Woodworking Machinery) Ordinance, 1959
1967 Public Highways....	The Public Highways Ordinance, 1967
1987 Ordinance...	The Health & Safety at Work (General) (Guernsey) Ordinance, 1987

Section 3

APPLICATION & RESPONSIBILITIES

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

Application

Part II of this Code sets out the safety management responsibilities in construction work which companies above a defined size range, companies carrying out contracts involving high risk activities and companies carrying out high activity but short duration work, must implement to comply with their duties under Section 1 of the 1987 Ordinance. These requirements will apply in the following circumstances.

1. Where the number of persons working on site (whether it be employees, sub-contractors or self employed contractors) exceeds 5 and the duration of the contract is more than 30 days.
2. If the work involves demolition or dismantling of a structure regardless of duration or numbers on site.
3. Where work is of short duration but is expected to involve at least 500 man-days of input.

Part III of the Code sets out safety standards which apply to all building and construction work together with associated activities, by virtue of the 1952 Ordinance, regardless of the size of the contract or the number of persons involved.

Responsibilities

The prime statutory responsibilities, which are dealt with under this Code fall onto "Principal" (Main) Contractors. Similar responsibilities cascade down to sub-contractors and the self employed who work or are engaged on a contract. There is advice on the responsibilities of 'Clients' and 'Architects', which is not mirrored by statutory obligation but nevertheless would be expected of a responsible practice.

Responsibilities of various categories of people are set out as follows.

Principal Contractor

The Principal Contractor should take account of the specific requirements of a project and his duties, if applicable, under Part II of this ACOP when preparing and presenting tenders or similar documents. He should take over and develop the Safety Plan, co-ordinate the activities of all contractors and sub-contractors and ensure they comply with relevant health and safety legislation and with the developed Safety Plan. Principal Contractors also have a duty to provide information and training for employees including the self-employed.

Advice regarding the specific duties of the Principal Contractor is set out under Part II Section 4 of the Code.

Clients (Including Agents & Developers)

Clients should be reasonably satisfied that they only use competent companies/people as Principal Contractors and be satisfied that sufficient resources, including time, have been or will be allocated to enable the project to be carried out in compliance with health and safety law, and best practice.

If clients do not appoint a Principal Contractor and undertake this function directly, the responsibility for compliance rests with them.

Reasonable enquiries only are required. Smaller, less complicated projects require less extensive checks.

It is not assumed that those making appointments or engaging contractors will be familiar with all aspects of the functions of the person they are engaging. In deciding what are reasonable enquiries, there are a number of elements:

- the enquiries made, need to be reasonable in the circumstances of the particular project under consideration: general enquiries need to be tailored to match the scale and complexity of the tasks to be performed;
- the way in which enquiries are made and what is reasonable will vary depending upon the nature of the appointment or engagement and the contract, if any, made between the persons concerned; and enquiries as to competence need to take into account the related enquiries as to resources.

In checking on competence, those making the checks need to take account of the need for:

- a knowledge and understanding of the work involved, the management and prevention of risk and of relevant health and safety standards; and
- the capacity to apply this knowledge and experience to the work required in relation to the particular project for which the Principal Contractor is being engaged.

Architects/Designers

Designers must design in a way which avoids, reduces, or controls risks to health and safety, as far as is reasonably practicable, so that projects they design can be constructed and maintained safely. Residual risks should be identified and documented.

Anyone who engages a designer needs to check the knowledge, ability and resources of the designer to carry out his duties.

The work of designers determines the nature of the subsequent construction work, and therefore the approach to health and safety.

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Reasonable checks on designers may include:

- (a) membership of a relevant professional body;
- (b) familiarity with construction processes in the circumstances of the project and the impact of design on health and safety;
- (c) awareness of relevant health and safety and fire safety legislation and appropriate risk assessment methods;
- (d) the health and safety practices of the designer for design work carried out;
- (e) the people to be employed to carry out the work, their skills and training; this will include external resources where necessary;
- (f) the time allowed to fulfil the various elements of the designer's work;
- (g) the technical facilities available to support the designer, particularly in the circumstances of the project;
- (h) the method of communicating design decisions to ensure that the resources to be allocated are clear; and
- (i) the way in which information on residual risks will be communicated.

Section 4**SAFETY MANAGEMENT & ORGANISATION****Appointment of Principal (Main) Contractors**

A Principal Contractor must be appointed for every site of works or project, which falls within the definition as set out under "Application" in Part I Section 3 of this Code.

This appointment will normally be made by the Client, Developer, Architect or Project Manager. In the absence of such an appointment then the person or company undertaking the works will be deemed to be the 'Principal Contractor'. The name of the Principal Contractor must be clearly identified at the site location and notified to the HSE together with site details at least 28 days before work commences (see Part II, Section 8 - Notification of Works).

Appointment of Safety Co-ordinator

The Principal Contractor must appoint a Safety Co-ordinator for the project who will be responsible for drawing up the safety strategy and co-ordinating day to day safety management on the site.

When appointing the Safety Co-ordinator, the Principal Contractor has to be reasonably satisfied as to:

- the competence of the appointee (See Part V Section 18, Appendix 2.).
- adequate resources for health and safety will be allocated to the appointee to perform his duty within the project.
- The appointment should be kept under review and terminated, reviewed or changed as necessary, if the nature of the project changes or if the competence of the Co-ordinator proves unsatisfactory.

Duties of Principal Contractor / Sub-Contractors/Self-employed Contractors to implement effective safety management.

All contractors working on site are required to have as a minimum the following aids to safety management:

- Each company employing 5 or more persons must have, by law, an effective Safety Policy which contains details of its organisational arrangements for implementing health and safety and the standards to which its employees/sub-contractors are required to work.
- Every company employing more than 20 persons or controlling an aggregate of 20 employees plus sub-contractors must have professional safety support.

This can be in the form of a competent (See Part V Section 18, Appendix 2.) in-house safety manager, the use of shared professional resources with other companies or the retention of professional safety consultants.

- Each contractor on a project must ensure that risk assessments are carried out to determine the principal risks involved with his activities.
- Method Statements must be drawn up for high-risk activities (See Criteria for Risk Assessment Part 11 Section 5). Examples of such activities are:
 - Demolition work or dismantling of structures.
 - Storage and use of explosives.
 - Asbestos removal or maintenance involving asbestos products.
 - Designed scaffold systems.

- Work on or over water.
- Work with compressed air.
- The Principle Contractor is responsible for developing a comprehensive Safety Plan for all projects having a capital value in excess of £1,000,000. a Safety Co-ordinator should be appointed and involved in the formation of this plan together with the Principal Contractor's Safety Manager or Professional Advisers. The Safety Co-ordinator should take suitable action to publicise the contents of the plan to all other contractors on site.

The Safety Plan serves two different purposes. During the pre-construction phase of a project, the Safety Plan brings together health and safety information obtained from the client and designers. The Safety Plan during the construction phase will draw on the Principal Contractor's health and safety policy and assessments, and the details on the management and prevention of health and safety risks created by contractors and sub-contractors. The Safety Plan will continue to evolve to provide a focus for co-ordination of health and safety as construction progresses.

Copies of the plan must be kept available on site for inspection by the Health and Safety Executive.

Section 5

CRITERIA FOR RISK ASSESSMENT

ACOP

The Principal Contractor and all other contractors engaged on a project falling within the category which requires a Safety Plan should prepare risk assessments which address risks to employees and to other persons who may be affected by their activities such as members of the public. Three aspects of the risk assessments prepared by the contractors on a project will particularly influence the role of the Principal Contractor:

- (a) the seriousness of the risk;
- (b) the nature of the assessment;

Certain activities of a contractor:

- (i) remain the same from project to project so that the same risk assessment (a 'generic assessment') is sufficient and suitable for all projects;
- (ii) vary from project to project and a risk assessment prepared for one project may have to be modified to be sufficient and suitable for the next;
- (iii) change so much from project to project that a fresh risk assessment is required for each.

- (c) the inter-relationship with other assessments;

Some activities of a contractor:

- (i) have no effect on other contractors working on the same project;
- (ii) in certain circumstances, or at certain times, affect other contractors;
- (iii) affect other contractors.

The Principal Contractor needs to examine the Safety Plan and the assessments of other contractors to confirm that the seriousness of the risks has been properly evaluated, to ensure that the assessments have, where necessary, been adapted to or prepared for the project, and to identify those where an inter-relationship problem might exist.

In certain circumstances on a construction project, a number of contractors may be exposed to the same risk. It may be appropriate for the Principal Contractor to co-ordinate the preparation of a single risk assessment common to all the contractors concerned.

Where an interaction problem exists or when a common assessment has been prepared, the Principal Contractor needs to take a positive role in ensuring that the general principles of prevention and protection (see Part V Section 18 Appendix 1.) are applied when deciding on the measures, which need to be taken as a result of the assessment.

The agreed measures and arrangements:

- (a) must deal with the risk in a co-ordinated and effective way;
- (b) may allocate appropriate action to all the contractors involved or to one contractor acting on behalf of the others.

Section 6

CONTENTS OF A TYPICAL SAFETY PLAN

ACOP

The contents of a typical Safety Plan might include:

- SECTION 1 Preliminaries
- SECTION 2 Safety Strategy, Introduction and Philosophy
- SECTION 3 Management structure
- SECTION 4 Supervising Officer
- SECTION 5 Safety Plan
 - 5.1 – General description of project
 - 5.2 – Details of principal and foreseeable risks
 - 5.3 – Construction risks
 - 5.4 – Project risks and risks to the public
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 - No 1 – Demolition
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 - No 6 – Manual and Mechanical Handling
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 - No 8 – Electrical work
 - No 9 – Highly flammable liquids
 - No 10 – LPG
 - No 11 – Hazardous substances / COSHH
 - No 12 – Noise
 - No 13 – Fire precautions
 - No 14 – First aid
 - No 15 – Personal protective equipment
 - No 16 – Permit to work certificates
 - No 17 – Avoidance of danger from electrical cables
- SECTION 7 Appendices
 - Appendix 1 – Checklist contractors safety arrangements
 - Appendix 2 – Health & safety practices of project contractors
 - Appendix 3 – Fire prevention on construction sites
 - Appendix 4 – Accident reporting procedures

Section 7

DUTIES OF SAFETY CO-ORDINATOR

ACOP

The Safety Co-ordinator is responsible for the safety strategy of the project and the co-ordination of all health and safety aspects of the project design and execution.

He must ensure that the Safety Plan has been prepared together with the risk assessments for activities of the Principal Contractor and if relevant, other contractors on site.

The Safety Co-ordinator will check to see that Method Statements are available and in place for designated 'high risk' activities.

The Safety Co-ordinator will also be the focus for the project with the Principal Contractor's professional safety support.

The Safety Co-ordinator will maintain records of all accidents and serious incidents on the project and will arrange for their investigation and recommendations for preventing a recurrence of similar incidents.

Section 8

NOTIFICATION OF WORKS

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The Principal Contractor is required to give the Health & Safety Executive 14 days notice of all construction works on projects, which fall within the scope described in Part I Section 3 APPLICATION of this ACOP.

Details to be notified are as follows:

1. Name of Principal Contractor.
2. Location of site of works.
3. Brief description of the project.
4. Date of commencement and approximate duration.
5. Name of Safety Co-ordinator.
6. Details of Principal Contractor's Safety Advisor.
7. Details of other States authorities notified.

Section 9

START OF CONSTRUCTION PHASE

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This section applies to all construction work and projects falling within Part I Section 3.

Before the actual construction phase of a project starts the following actions should have been taken by the relevant categories of people.

1. Clients etc

- Selection of competent Principal Contractors.
- Overview of adequacy of resources for health and safety provisions.

2. Architects/Designers

- Design features should incorporate safety considerations.
- Residual risks should be identified.

3. Principal Contractor

- Notification of works to the Health & Safety Executive.
(see Part 11 Section 8)
- Appointment of Safety Co-ordinator.
- Preparation of Safety Plan.
- Ensure hazard assessments have been carried out.
- Selection of sub-contractors with regard to their health and safety competency.
- Ensure arrangements in place for monitoring health and safety with professional input.

4. Safety Co-ordinator

- Ensure that Safety Plan is prepared, distributed to relevant parties and understood.
- Ensure that hazard assessments are in place and co-ordinated between Principal and sub-contractors.
- Check that all Method Statements are in place for designated High-risk activities.
- Ensure that contact has been made with Principal Contractors, Safety Advisors and that communication arrangements are satisfactory.
- Set up arrangements for accident and incident reporting.

PART III

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

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Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 1 ABRASIVE WHEELS

Section 1 (1) 2(a)
and (c) 1987
Ordinance

ACOP



1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

(2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular -

(a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;

(c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;

1. Serious injuries occur when wheels burst and flying fragments strike people in the vicinity. The two main causes of bursting are:

1.1 over speeding;

1.2 faulty mounting of wheels on grinding machines.

2. Speeds and feeds must not exceed the manufacturer's recommendations. The speed should be marked on the wheel and the driving equipment, and they should match.

3. When in use, fixed guarding must be in place with goggles to the required British Standard worn by the operator.

4. Adjustment should not be made whilst the wheel is in motion.

5. Abrasive wheels should be fitted by a competent person who has been trained in such work and who has been authorised by the employer to perform this task.

6. The abrasive wheel and the driving equipment should be regularly checked and maintained by competent and authorised personnel.

7. The sharp ends of the cut material and the heat generated by the cutting process should be looked upon as hazards.

8. Personal protective equipment may include gloves to protect the hand from the sharp edges of the cut metal.

9. All materials should be securely clamped, or held rigid by some other means, either side of the blade before cutting commences.

10. The use of abrasive wheels often leads to the creation of offcuts. A procedure for maintaining high housekeeping standards should be created and implemented.

11. Work rests should be fitted and positioned as close as possible to the wheel.

12. Operators should avoid grinding on the sides of straight-sided wheels.

13. The spindles may become overheated if they are not provided with lubrication during regular maintenance.

14. Wheels should not be stopped by applying excessive pressure to them.

15. As with any item of portable plant, they should be properly stored in dry conditions where there is no chance of damage from a secondary source.

16. There is a wide range of abrasive wheels designed to undertake a variety of jobs. Selecting the right piece of equipment for a particular application is essential. The retailer should be able to provide advice to ensure correct selection.

Other sources of information:

HSE Publications

PM22 Training advice on the mounting of Abrasive Wheels
1983 ISBN 0 11 883568 8

HS(G)17 Safety in the use of Abrasive Wheels:
adjusting ring to compensate for wheel wear
1992 ISBN 07176 0466 7

Safeguarding sawing and cutting off machines
Machine Tools Technologies Association
62 Bayswater Road
LONDON W2 3PH

Machine Tool Industry Research Association
Hulley Road
Broadheath
Altringham
Cheshire WA 14 4EP

Section 10

STANDARD FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 2 ASBESTOS

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

(2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular

- (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
- (b) arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health, in connection with the use, handling, storage and transport of articles and substances;
- (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
- (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;
- (e) the provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe, without risks to health, and adequate as regards facilities and arrangements for their welfare at work.

Section 1 (1)
2(a) - (e)
1987 Ordinance

1. Asbestos products were extensively used in the construction industry until the late 1970's. The principal uses were



- 1.1 Sprayed asbestos for fire protection of structural steelwork and firebreaks in buildings.
 - 1.2 Lagging for pipework.
 - 1.3 Fire insulation boards.
 - 1.4 Roof insulation.
 - 1.5 Partitioning boards.
 - 1.6 Corrugated roofing sheets.
2. Left alone and undisturbed, asbestos products present few hazards. Release of asbestos fibre into the atmosphere, and especially into an enclosed environment, and the risk to a human's respiratory system is very real. Asbestos fibres may be released...
 - 2.1 by degradation with age.
 - 2.2 by intentional breaking and demolition of the product.
 - 2.3 by sawing or use of the power tools.
 - 2.4 by handling or movement.
 - 2.5 All types of asbestos are potentially hazardous.
3. If quantities of finely divided asbestos fibre are inhaled, the victim may contract an asbestos related disease, i.e. asbestosis, asbestos related lung cancer or mesothelioma. The development of cancer normally takes many years before detection by tests and ill health.
4. Whilst asbestos is no longer used in building materials, construction workers may come across old asbestos products during refurbishment, extensions, maintenance and decoration. Employees from all trades should be aware that they may come across the substance during the course of their work.
5. If you suspect that you have discovered a source of asbestos, the best advice is to stop work, do not cut, saw, drill or break into it, and report the finding to a Supervisor who will arrange for specialist advice.
6. The principal hazard from asbestos is when working on its removal and disposal. The following guidance on the removal of asbestos products is divided into two procedures.
 - 6.1 Procedures for the removal and disposal of corrugated asbestos sheets.
 - 6.2 Procedures for the removal and disposal of asbestos products in buildings and enclosed spaces.

REMOVAL OF CORRUGATED ASBESTOS SHEETS

- 6.1.1. A safe means of access / egress and safe working platforms must be provided.
 - 6.1.2 A Method Statement should be produced for the particular removal operation.
 - 6.1.3 The workers should be provided with asbestos approved I particulate dust masks to cover nose and mouth. There is a strong case for providing disposable overalls so that asbestos fibre cannot lodge on working clothes.
 - 6.1.4 Generally, the corrugated sheets are held to the roof steel framework

with U-bolts. The bolts should be removed with croppers, never power saws, which are likely to cut into the asbestos sheets and create the harmful dust.

ACOP

- 6.1.5 The first priority is to avoid breaking the corrugated sheets. The whole sheets should be lowered to slab level and not thrown or bombed. There are many ways of lowering the sheets, but the rule is not to damage or break the sheets. They can be carefully placed in skips, lorries or stacked for loading at a later stage.
- 6.1.6 Twenty-four hours before taking the asbestos to the States tip (the location of the tip varies from year to year), the Board of Administration should be advised of the intended load.
- 6.1.7 When in transit from the site to the tip; the asbestos load should be entirely covered by a well fitting tarpaulin or similar cover. I
- 6.1.8 The tip supervisor will give tipping instructions to the driver on his arrival.
- 6.1.9 The procedure for the removal and disposal of corrugated asbestos roof sheets can be undertaken by any worker experienced in roof work who follows the Method Statement created for that one job, and the guidance for its removal.
- 6.1.10 Reference should also be made to Part III Section 10 No. 19 - Roof Work.

REMOVAL OF ASBESTOS PRODUCTS FROM BUILDINGS AND CONFINED SPACES

- 6.2.1 The hazards associated with this work are potentially far greater and it is strongly advised that the removal work is only undertaken by qualified specialists with specially trained personnel using the most up to date methods of removal.
- 6.2.2 The asbestos products in this category include spray insulation, pipe lagging, lagging on RSJ's or other steel beams, asbestolux board or similar, insulation materials of any sort containing asbestos.
- 6.2.3 It is good management practice before planning the work to have an asbestos survey conducted by specialists who will take samples and have these analysed to show the type of asbestos product and its location, or indicate that the sample is a non-asbestos product with very little risk to the workforce.
- 6.2.4 A professional survey will locate on ground plans or architect's drawings the exact position of all samples.
- 6.2.5 Following the survey a Method Statement must be provided for the removal company and the client.
- 6.2.6 The Method Statement will include the safe systems of work to be employed during the removal process so that neither the removers, the site workers nor the public are put to any risk from airborne fibres. This will entail sealing the removal area and limiting the work areas on site, and to this end notices should be displayed and their instructions rigidly enforced.
- 6.2.7 These guidance notes do not attempt to go into the removal detail but it should be emphasised that the asbestos removal areas should not be re-entered until air tests have been conducted by a competent hygienist, and the results are within the acceptable exposure levels.

6.2.8 The double bagged, sealed and labelled asbestos waste is disposed of in Board of Administration tips as outlined above.

6.2.9 A well managed building site, be it new build, refurbishment or extension will employ skilled carpenters, blocklayers, roofers ... skilled craftsmen. The risks associated with asbestos fibre are so great that its identification, analysis of samples, method and system of removal should be left to those with the relevant skills. Untrained workers, however well intentioned, should not meddle with asbestos products. If there is doubt about the possible asbestos content of a material, assume the worst and call in those skilled in its identification.

Other sources of information:

HSE Publications

MS13	Asbestos	1988	ISBN 0 11 885402 X
HS(G)53	Respiratory protective equipment: a practical guide for users	1990	ISBN 0 11 885522 0
L27	Control of Asbestos at Work Regulations	1987	
	Approved Code of Practice	1993	ISBN 0 11 882037 0

There are six other specialist guidance notes available from the HSE bookshop.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES SAFETY STANDARD No. 3 CHAINS, ROPES, LIFTING TACKLE

PART 1
Section 1(1), (2)(a)
and (b)
1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

(2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular

- (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
- (b) arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health, in connection with the use, handling, storage and transport of articles and substances;

PART 1
Section 9
1952 Ordinance

9. (1) The following provisions shall be complied with as respects every chain, rope or lifting tackle used for the purposes of raising or lowering persons, goods or materials:

- (a) no chain, rope or lifting tackle shall be used unless it is of good construction, sound material, adequate strength and free from patent defect;
- (b) all chains, ropes and lifting tackle in use shall be thoroughly examined by a competent person at least once in every period of six months or at such greater intervals as the Authority may prescribe;
- (c) every chain and lifting tackle except a rope sling shall, unless of a class or description exempted by certificate of the Authority upon the ground that it is made of such material or so constructed that it cannot be subjected to heat

treatment without risk of damage or that it has been subjected to some form of heat treatment (other than annealing) approved by the Authority, be annealed at least once in every fourteen months, or, in the case of chains or slings of half-inch bar or smaller, or chains used in connection with molten metal slag, in every six months, so, however, that chains and lifting tackle not in regular use need be annealed only when necessary.

ACOP

In this section the expression “lifting tackle,” means chain slings, rope slings, rings, hooks, shackles, and swivels.

1. Lifting, by its very nature, must be regarded as a hazardous but essential operation on building sites. Failure of lifting tackle may lead to serious injury or damage to property.

2. Lifting tackle often receives severe usage and mistreatment. It is normally in contact with the elements and because of its relatively small size, it is often subjected to the weight of static and mobile loads.

3. To reduce the risks associated with lifting, management should pay careful attention to its correct use and to the maintenance of the tackle.

ACOP

4. The best advice is to purchase tackle that is made to the appropriate British Standard and is of good construction, sound material, adequate strength for the lift expected of the item and free from patent defect. There are British Standards for chain, chain slings, hooks, shackles, ropes, slings, pulley blocks, winches and gin blocks.

5. When purchased, each item should be stamped or marked with its safe working load (SWL).

6. The 1952 Ordinance requires that all chains, ropes and each item of lifting tackle be inspected at least once in every six month period. Items, which need repair or rebuilding, should be further tested before being brought back into use, and items beyond repair should be destroyed or scrapped immediately.

7. Whilst the law requires six monthly inspections, good management I will encourage all items of lifting tackle to be inspected before use, and damaged items withdrawn from use for repair or disposal. Damage to lifting tackle may occur between inspections so regular visual inspections should be built into safe systems of work procedures.

8. Reports on inspections should be filed for possible future reference.

9. Management should accept that the duty of a banksman / slinger is not one that can be undertaken by untrained persons. Too many accidents arise because lifting operations are linked to faulty slinging, poorly secured loads and overloading of slings. A banksman / slinger has as important a role as the crane driver in the lifting and lowering operations.

10. Common defects to look for in lifting tackle include: stretched links in chains; cuts or nicks; distorted links; rings or hooks; kinks; wear or broken wires in wire rope slings.

11. Slings that have been shortened by knotting should never be used.

12. This guidance does not extend into describing the various types of sling for the range of loads. Readers should turn to other sources of information for detailed guidance and illustrations.

13. Every hook that links the sling to the load for lifting or lowering purposes should be either:

13.1 provided with an efficient device to prevent the displacement of the sling or load from the hook, or

13.2 be of such shape as to avoid, as far as possible, the risk of such displacement.

The best designs are therefore the "C" type hook with the point turned I in or the swivel hook or the hook fitted with a safety catch. If the safety catch becomes damaged, the hook should be withdrawn from use immediately.

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14. Shackles are widely used for making connections in slinging. Three points to consider....

14.1 They should be marked with their SWL and be inspected every six months.

14.2 The pin is a separate part of the shackle but belongs to it. No form of substitute pin should be used in place of the original.

14.3 Pins can unscrew themselves with frequent rocking. They should therefore be locked in place by some means.

15. When multiple slings are used for lifting or lowering, the legs should be connected to the swivel or hook by a ring or a shackle of adequate strength.

16. To raise efficiency and reduce the harmful effects of weather and exposure to vehicles and other potential causes of damage, it should be emphasised that all lifting tackle should be stored when not in use.

17. The risk of head injury to banksmen / slingers is very real and every employee engaged in or working near a lifting operation should be provided with and use approved head protection.

Other sources of information.

HSE Guidance Notes

PM16	Eyebolts	1978	ISBN 0 11 883187 9
PM20	Cable laid slings and grommets	1987	ISBN 0 11 883 952 7
PM39	Hydrogen embrittlement of grade T chain	1984	ISBN 0 11 883585 8
PM54	Lifting gear standards	1985	ISBN 011 883520 3

L20	Code of Practice for safe use of lifting equipment - Lifting Equipment	ISBN 0717 604888
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Engineers Association, Waggoners Court, The Street,
Mawnden, Bishops Stortford, Herts, CM23 1 DW.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 4 - CONFINED SPACES

PART 1

Section 1(1) – (2)
(a), (c) and (d)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular -
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
 - (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

PART 1

Section 13

1952 Safety of
Employees

13. (1) Where work has to be done inside any chamber, tank, vat, pit, pipe, flue or similar confined space, in which dangerous fumes are liable to be present to such an extent as to involve risk of persons being overcome thereby -
 - (a) the confined space shall, unless there is other adequate means of egress, be provided with a manhole, which may be rectangular, oval, or circular in shape, and shall be not less than eighteen inches long and sixteen inches wide or (if circular) not less than eighteen inches in diameter, or in the case of tank wagons and other mobile plant, not less than sixteen inches long and fourteen inches wide or (if circular) not less than sixteen inches in diameter; and
 - (b) no person shall enter the confined space for any purpose unless the following requirements are complied with:-
 - (i) all practicable steps shall be taken to remove any fumes which may be present and to prevent any ingress of fumes, and, unless it has been ascertained by a suitable test that the space is free from dangerous fumes, the person entering shall wear a belt to which there is securely attached a rope of which the free end is held by a person outside; or
 - (ii) the person entering shall wear a suitable breathing apparatus;
 - (c) suitable breathing apparatus and a suitable reviving apparatus and suitable belts and ropes shall be provided and maintained so as to be readily accessible, and shall be periodically inspected in the prescribed manner; and
 - (d) a sufficient number of the persons employed shall be trained and practised in the use of such apparatus and in the method of restoring respiration:

PROVIDED that the Authority may by certificate grant, subject to any condition specified in the certificate, exemption from compliance with any of the aforesaid requirements in any case where it is satisfied that compliance with those requirements is unnecessary or impracticable.

(2) No work shall be permitted in any boiler-furnace or boiler-flue until it has been sufficiently cooled by ventilation or otherwise to make work safe for the persons employed.

1. The phrase 'confined space' covers a wide range of workplaces, which have limited access and inadequate ventilation. Confined ~ spaces may become deficient in oxygen due to a build up of ~ concentrations of toxic or flammable gases or vapours. Frequently the hazardous atmosphere is the result of work related activities such as welding, painting, flame cutting or the use of adhesives and solvents.
2. The atmosphere in the confined space may already be affected by flammables or fumes or lack of oxygen, or the hazard may develop during the course of a work activity. The employer will therefore need to conduct, or employ specialists to conduct, a risk assessment of the proposed activity and area, and plan activities in such a way that the health and safety of no-one is put at risk. This will lead to the formation of a safe system of work, and frequently a Method Statement.
3. The Method Statement will outline a number of safe systems, which may include:
 - 3.1 The testing of the atmosphere before entry, and the frequency of regular monitoring.
 - 3.2 Method of communication between operative in confined space and attendant in free air.
 - 3.3 Method of selection and training of personnel going into a confined space.
 - 3.4 The means of access and egress.
 - 3.5 Contaminants likely to be met whilst working in the confined space.
 - 3.6 The type of personal protective equipment to be used.
 - 3.7 The permit-to-work and permit-to-enter systems.
 - 3.8 The length of shift work so that the operative can benefit from periods of rest in the free air.
 - 3.9 The procedures to be used in the event of an emergency.

The remainder of this Safety Standard elaborates on the broad content of the Method Statement.

TESTING OF THE ATMOSPHERE

4. These tests need to be conducted by a competent person as part of the risk assessment, which will establish if there is a problem and the severity of any problem. Only when the nature of the problem is known can the planning of the work in the confined space be undertaken.
5. For the purposes of this Safety Standard it should be recognised that trenches can cause an accumulation of heavier than air gas and therefore a confined space scenario may exist at the bottom of a trench.
6. An atmosphere that is safe on entry may become unsafe as a result of work activity or ingress of a substance, and therefore continuous monitoring will be necessary whilst persons are working in the confined space.
7. Whilst quantities of gas may be detected by smell, the only sure way of testing for hazardous concentrations of gas or fumes is by using atmosphere-testing instruments.

OPERATIVE AND ATTENDANT

8. The employee who will work in a confined space must be fit and competent to undertake the work expected of him. He should not have a history of fits, blackouts or fainting; he should not have a history of heart trouble; he should not have high blood pressure; he should have good hearing, eyesight and sense of smell; he should not suffer from claustrophobia or any other mental disorder; he should not suffer from any musculo-skeletal problem that could restrict his movement.
9. The operative should be competent to undertake the work or under instruction.
10. Whilst the operative is in the confined space, an attendant must remain in the free air at the point of access/egress. Frequently, a line will be attached to the employee going into the confined space.
11. A system of communication must be set up, and understood by all involved in the work.

ACCESS AND EGRESS

12. Some access, for instance into a trench which has been adequately shored up, is relatively easy by ladder. The ladder should remain in place throughout the work cycle.
13. Where work is to be undertaken in a tunnel or tank a lifeline should be attached to the operative by a body harness and be held by the attendant. If possible, mechanical means of lifting should also be available and used as necessary.
14. It is recommended for means of egress that rectangular or oval manholes should be not less than 460 X 410mm in size, and circular manholes not less than 460mm in diameter.
15. When considering the size of access/egress holes, the possible wearing of breathing apparatus should be considered.
16. An attendant must always be positioned at the point of access/egress during work in a confined space.

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PERSONAL PROTECTIVE EQUIPMENT

17. If the risk assessment identifies a lack of oxygen or accumulations of toxic or flammable atmospheres, the employer may have to consider several possible actions:
 - 17.1 Is it necessary for a worker to enter the confined space?
 - 17.2 Can the work be undertaken by one operative rather than two?
 - 17.3 Can the confined space be purged of the toxic or flammable atmospheres before work commences?
18. If the assessment, and any subsequent action to improve the level of oxygen and eliminate the harmful atmospheres and their source are unsuccessful, then the work may have to be undertaken by trained operatives using approved independent breathing systems.
19. The operative will be provided with clothing appropriate to the conditions in which he is required to work with emphasis on footwear, gloves, eye

and head protection.

20. Due consideration should be given in advance of entry into a confined space of the possible effect of wet and cold on the operative. and the provision of suitable clothing to prevent the harmful effects of these elements. It is advisable for the operative to wear a high visibility waistcoat.

PERMIT TO WORK/PERMIT TO ENTER

ACOP

21. For some types of work in confined spaces, a permit to work is a satisfactory way to ensure a safe system of work. The permit to work is a detailed operational document prepared by a competent person which sets out the work procedures, the hazards, the method of atmosphere testing, the necessary precautions and the sequence of the work. The permit to work sets down the time for the work to start and finish, and is signed by the competent person to signify that every step in the sequence of safety checks has been taken. The locking off of all sources of power, valve inlets, etc. should be specified on the permit.
22. A written permit to enter is written to authorise entry into a confined space. The person entering the confined space may be required to wear a calibrated chemical detector and/or a portable oxygen meter.
23. When a person enters a confined space following the issue of a permit to enter, resuscitation apparatus for immediate use should be kept at the point of access and a communication system set up.
24. The rule that no-one should go into a confined space without the authority of the competent or responsible person should not be relaxed in an emergency. Multiple fatalities have occurred where would-be rescuers have gone into a confined space without breathing apparatus and without considering the consequences of their hasty though well-intentioned action.
25. Persons entering confined spaces wearing breathing apparatus should be trained in its operation.

WORKING PRECAUTIONS

26. Persons working with breathing apparatus in confined spaces have sometimes been caught in fires and explosions. There are a number of ways in which this hazard can be reduced.
 - 26.1 Install forced ventilation to reduce the fire/explosion atmospheric mix.
 - 26.2 No smoking - no naked lights must be the rule.
 - 26.3 All electrical tools and lighting must be of the flameproof or intrinsically safe type. I
 - 26.4 Non spark tools must be used and there should be no nylon clothing or nylon lines because of the risk of generating static electricity.

EMERGENCY PROCEDURES

27. The procedures for rescue operations should be clearly set down in the Method Statement and permit-to-work documents.

ACOP

- 28. Those who may be required to respond to an emergency must be trained in all aspects and procedures.
- 29. The method of communication between the operator in the confined space and the attendant must be fail-safe. A regularly timed shout between the operator and the attendant may be the most effective method but consideration may also be given to the use of rope signals or radio links. It is important to remember that the operator requiring urgent assistance may lose consciousness and thus be unable to give a signal; thus the need for timed signals, and prompt action if the line of communication is interrupted.
- 30. The emergency procedures must be written by a competent person I and communicated and explained to the operator, his attendant and I anyone who may become part of the emergency team.

Other sources of information

HSE Publication

GS5	Entry into confined spaces	ISBN 0717 607879
HS(G)53	Respiratory Protective Equipment	
	- a practical guide for users 1990	ISBN 0 11 885522 0
EH42	Monitoring strategies for toxic	
	Substances 1989	ISBN 0 11 885412 7
Construction industry sheet No. 15 ... Confined spaces		

Section 10

STANDARD FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 5 - DEMOLITION

PART III
Section 54
1952 Safety of
Employees

54. (1) The provisions of this section shall apply to the demolition of any building or substantial part of a building.
- (2) The demolition and operations incidental thereto shall be specifically placed under the supervision of a competent person experienced in demolition operations and appointed for the purpose whose name shall be posted up in a prominent position on the site of the operations, so however that where two or more contractors take part in the operations each such contractor shall appoint a competent person as aforesaid and either the same person shall be jointly appointed by every such contractor or each such contractor shall make arrangements to ensure that no operation is undertaken by his workmen except after consultation between all persons so appointed as to the method by which and the time at which the operation is to be carried out.
- (3) Before demolition is commenced and also during the progress of the work
- (a) no electric cable or apparatus which is liable to be a source of danger, other than a cable or apparatus used for the operation, shall remain electrically charged;

- (b) all practicable steps shall be taken to prevent danger to persons employed -
 - (i) from risk of fire or explosion through leakage or accumulation of gas or vapour, and
 - (ii) from risk of flooding from water mains, sewers or culverts.

(4) No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

(5) The following operations shall be carried out only (i) under the immediate supervision of a competent foreman or chargehand with adequate experience of the particular kind of work, or (ii) by workmen experienced in the kind of work and under the direction of a competent foreman or chargehand as aforesaid:

- (a) the actual demolition of the framework of a building or of any floor, wall, roof, staircase or chimney, except where there is no risk of a collapse of any part of the building in the course or as a result of the said demolition, so as to endanger any person employed, other than a risk which could not reasonably have been foreseen;
- (b) the actual demolition of any part of a building where there is a special risk of a collapse, whether of that or of any other part of a building, in the course of or as a result of the said demolition, so as to endanger any person employed;
- (c) the cutting of reinforced concrete, steelwork or ironwork forming part of the structure of a building;

and before any steelwork or ironwork is cut or released, precautions shall be taken, so far as is practicable, to avoid danger from any sudden twist, spring or collapse.

(6) All practicable precautions shall be taken to avoid danger from collapse of the structure when any part of the framing is removed from a framed or partly framed building.

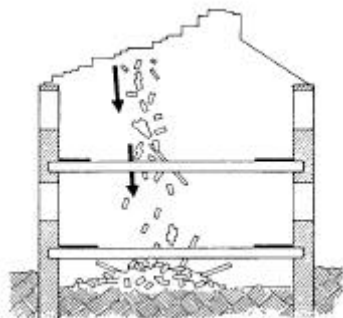
(7) Before demolition is commenced and also during the progress of the work precautions shall, where necessary, be taken. by adequate shoring or otherwise to prevent, as far as is practicable, the accidental collapse of any part of the building or of any adjoining building the collapse of which may endanger any person employed:

PROVIDED that this requirement shall not apply in relation to any person actually engaged in erecting or placing shoring or other safeguards for the purpose of compliance with the provisions of this section if appropriate precautions are taken to ensure his safety as far as circumstances permit.

ACOP

BEFORE DEMOLITION WORK COMMENCES, management will wish to consider the following good practices when planning the work:

1. Demolition will involve the inter-action of employees and plant in a potentially dangerous activity.
2. Demolition may also affect third parties, that is other workers on the site or the general public.
3. Demolition activities may also affect adjacent property, nearby vehicles or services supplying other properties.
4. Guernsey Electricity require at least fourteen days notice prior to the demolition or partial demolition of buildings.
5. Consideration should also be given to other services, and the need to disconnect these in advance of the work.
6. Many buildings due for demolition will be of an age whereby asbestos products are part of the fabric of the building. These products and their



location should be identified, where possible, in advance and properly removed and disposed of. These procedures are spelt out in Part III Section 10 No. 2. - Asbestos.

7. When demolition may affect users of public highways, the Police, Traffic Committee and Parish officials need to be consulted well in advance.

METHOD STATEMENT (See also Part I, Section 2. Meanings of expressions).

As demolition often carries a high risk factor, the contractor should require a Method Statement to be written. This statement is compiled by a competent person representing the demolition contractor and will include at least the following detail:

- (a) identify the competent person in charge of the work;
- (b) detail the sequence and method of demolition so as to prevent danger to the persons concerned;
- (c) specify arrangements for identifying and making safe any services, including overhead lines;
- (d) identify any harmful substances and specify the appropriate precautions;
- (e) specify the appropriate level of personal protective equipment, including head protection;
- (f) consider the potential problems of noise, dust and vibration on the work force and the neighbourhood/environment;
- (g) detail the arrangements for the disposal of waste;
- (h) specify the arrangements for segregating the work from other site activities.

ACOP

Demolition activities require careful and thorough planning. It is important these plans follow a logical sequence and that the person in charge follows the order set down in the Method Statement. The sequence can be changed, but only after consultation with the creator of the Method Statement.

Further references

GS 29/1 (Rev)	Health & safety in demolition work: Part 1 preparation and planning.	ISBN 0 11 885405
GS 29/3	Health & safety in demolition work: Part 3 techniques	ISBN 0 11 883609
GS 29/4	Health & safety in demolition work: Part 4 health hazards	ISBN 0 11 883604
GS 6	Avoidance of danger from overhead electrical lines	ISBN 0 11 885668 5

The avoidance of danger from electrical cables on construction sites and public thoroughfares published by Guernsey Electricity.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 6 - ELECTRICITY

Safety of
Employees
(Electricity)
Ordinance 1956
Section 18(1) and
(2) and Part II
Section 3 (2)

The Safety of Employees (Electricity) Ordinance 1956 Section 18(1) and (2) states that "the insulation resistance of all parts of an occupier's installation, of the conductance of the earthing conductors comprised therein and of the earth plate or plates associated therewith shall be tested in the prescribed manner at least once in every period of twelve months or such lesser period as may from time to time be prescribed ..." It also states that "the prescribed particulars of the result of any test ... with the date upon which the test was made shall be recorded as soon as may be in a report book to be kept at the premises concerned". Premises include all wharves, quays and warehouses, factories, quarries, growing properties and premises where building operations are carried on."

Institution of
Electrical Engineers
16th Edition

Currently the 16th Edition is law in Guernsey by virtue of Loi Relative la Fourniture de L'Electricite par Les Etats of 1933 sub-section 31 which states "It shall be unlawful for any person to make use of any electrical installation or apparatus fixed or placed in any premises to which energy is or is about to be supplied by the (Electricity) Board unless and until such installation and apparatus have been examined, tested and approved by an inspector authorised by the Board in that behalf as complying with the requirements for the time being of the Institution of Electrical Engineers of London as set forth in the rules and regulations, for the electrical equipment of buildings issued by that Institution. It shall likewise be unlawful to make use of any such installation or apparatus after the same or any part thereof has been altered in position or extent or by replacement or repair unless and until it has been examined, tested and approved as aforesaid".

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- 1.1 Compliance with the latest Edition of the Institution of Electrical Engineers - Regulations for Electrical Installations, and all future and further amendments, is a requirement under the electricity laws of Guernsey.
- 1.2 Copies of these Regulations are available to the industry and it should be emphasised that SECTION 604 entitled "Construction Site Installations" applies in particular to all building work, demolition, engineering, earth works and similar works. It should be emphasised that there is also a need to comply with the main body of the Regulations as appropriate to each operation.
- 1.3 The requirements of the Regulations relate to protection against electric shock, fire, burns and injury from mechanical movement of electrically actuated equipment in so far as such injury is intended to be prevented by electrical emergency switching, or by electrical switching for mechanical maintenance of non-electrical parts of such equipment.
- 1.4 Those responsible for the design and construction of installations should make use of the latest Regulations with respect to the type of installation.
- 1.5 To ensure continuing compliance with the Regulations, periodic inspection and testing of installations is required, and the Regulations provide a comprehensive list of those aspects of an installation, which should be tested.

- 1.6 The frequency of periodic inspections and testing, though not specified in the Regulations, should be determined by the type of installation, its frequency of use and operation, the regularity of maintenance and the external factors which may have affected the installation since its previous test. It may be advisable for some builders' electrical supplies to be checked very frequently e.g. weekly or monthly. There is a strong case for ensuring that fixed electrical installations are inspected and tested annually. Test results should be dated and recorded. (See Chapter 73 of the Regulations).
- 1.7 Thus the IEE Regulations place a specific duty of care on the Principal Contractor to ensure that all elements of the electrical supply from the meter to the tool or plant do not present a risk to the health and safety of his employee, the sub-contractors or third persons who may be affected by the inadequacies of the electrical equipment.
2. There are three main hazards associated with working with electricity:
 - 2.1 Contact with live parts, or electric shock. Electricity can be conducted along metal, which comes into contact with bare cable or through water.
 - 2.2 Fire. Fires started by inadequate electrical installations can cause many deaths and injuries, and damage to property.
 - 2.3 Explosion. These can be caused by electrical apparatus or static electricity igniting flammable material.
3. The remainder of the guidance in this Section comes under headings:
 - 3.1 The design stage
 - 3.2 Preliminary site work
 - 3.3 The installation and alterations to the supply at the supply intake position
 - 3.4 Portable plant
 - 3.5 Maintenance of plant
 - 3.6 Safe operations

3.1 THE DESIGN STAGE

- 3.1.1 To reduce the hazards associated with bringing an electrical supply from the network to the supply intake position on the site, the Principal Contractor and Designer should consider the total electrical load requirement for the site works and on into the life of the building. There are two types of application forms.

3.1.1.1 Service application... when a new supply is required

3.1.1.2 Additional load/Alteration application... when additional loads and/or alterations to the electrical installation are required.

The completed forms should be returned to the GE offices.

- 3.1.2 It is essential that these forms are completed before work on site commences, and the advice is..."as early as possible to ensure the requirements are met".

3.2 **PRELIMINARY SITE WORK**

3.2.1 The Principal Contractor should consider whether overhead cables will affect his work and therefore the safety of those using plant, and, when appropriate, approach GE so that the risk can be removed;

3.2.2 The Principal Contractor has responsibility for ensuring that there is no risk from underground live electrical cable coming onto site, or passing under the site to another customer. The Principal Contractor should note that not all live underground cable is in the ownership of GE;

3.2.3 Following from the previous paragraph, the Principal Contractor should contact GE for information on the known position of cable on the site and assistance in tracing cable that may not appear on ground plans held by GE. The aim of these enquiries, investigations and tests is to;

3.2.3.1 ensure that supplies are not severed to customers;

3.2.3.2 ensure that no employee is at risk from inadvertently coming into contact with a live cable that could maim or kill.

3.3 **THE INSTALLATION AND ALTERATIONS TO THE SUPPLY AT THE SUPPLY INTAKE POSITION**

3.3.1 GE is solely responsible for bringing the electrical supply into the building terminating at the intake position, and for fixing the meter.

3.3.2 Once the installation is completed, and on receipt of a fully and correctly completed Completion/Inspection Certificate, the GE's inspector will inspect and test the installation. If the tests are successful, the inspector will install the meter and connect the installation.

3.3.3 Responsibility for the electrical installation, the transformers, the plant and the electrical fittings beyond the meter rests with the Principal Contractor and his electrician, or the property owner.

3.3.4 The Principal Contractor will normally sub-contract to a qualified electrician or electrical contractor the task of bringing electricity from the service intake position to the necessary site locations. This may include services for plant, machinery and canteens, and may include dedicated supplies for welders. Once those connections are made and before the supplies are brought into use, the Principal Contractor must send the Completion Certificate to GE so that inspectors can test the installations.

3.3.5 If the GE inspector is not satisfied that transformers delivering 110 volts to plant are in place on site (except for dedicated services to office accommodation, canteen, tower crane and the like as per Section 604 in the IEE Regulations), he has the authority to refuse the connection.

3.3.6 If alterations or additions are made to the electrical installation after the initial inspection, a separate Load Application must be sent to the offices of GE, and the results of the subsequent tests awaited.

3.3.7 If GE are called to site following an accident resulting from the use of 230 volts, the supply may be terminated (to comply with the new European harmonisation initiative, all future references are to 230 volt rather than 240 volt).

3.3.8 The onus on contractors using independent generators for electrical supply is also covered by health and safety management considerations as outlined in earlier paragraphs. Contractors making use of portable

generators should pay particular attention to the earthing of subgenerators.

- 3.3.9 The principle of supply, installation, testing and adaptation by an electrician, and inspection by GE, apply to any building site, or building of whatever size.

3.4 **PORTABLE PLANT**

- 3.4.1 It is essential that only plant powered by 110 volt or less is used on sites. 230 volt shocks are more likely to kill.

- 3.4.2 However if the advice contained in 3.4.1 above is not followed and 230-volt supplies are used, more usually in house renovating and decorating, residual current devices should be used. This is not an entirely satisfactory solution but they are better than nothing.

- 3.4.3 The safer option, wherever and whenever possible, is to plug a transformer into the 230 volt supply and use 110 volt portable plant only.

- 3.4.4 Portable plant frequently receives knocks, blows, multi-use and is exposed to weather... harsh treatment.

Typical and obvious defects include:

- 3.4.4.1 cracked or damaged casing
- 3.4.4.2 damaged cable
- 3.4.4.3 damaged plug
- 3.4.4.4 on metal cased tools, checks should be made that there is an earth connection, except for double insulated tools

- 3.4.5 The plant should be regularly visually inspected, repairs made by an electrician, or the plant taken out of service if beyond repair. Temporary repairs should not be made.

- 3.4.6 It should be noted that some transformers and portable plant are not suitable for use in exposed weather conditions, and may need protection. Employers should also note that cable to medium sized transformers may contain 230 volts, and therefore should be adequately protected in accordance with site conditions.

- 3.4.7 Electrical cable and extension leads are frequently associated with electrical accidents. They are easily damaged and seldom receive the inspections necessary to locate damage. The user of the portable plant has a responsibility to inspect leads and plant before using them, and to report any defects, but the general duty of care remains firmly with the employer.

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3.5 **MAINTENANCE OF PLANT**

- 3.5.1 Regular maintenance between inspections is an essential ingredient in good management. Maintenance lengthens the life of plant and reduces the risk to those using the item.

- 3.5.2 Maintenance should only be undertaken on plant, which has been disconnected from the electrical supply.

- 3.5.3 Maintenance should be undertaken by those experienced and qualified to do the work.

- 3.5.4 Anyone who uses an item of plant has a responsibility to report defects. Temporary repairs should be strongly discouraged.

- 3.5.5 It is strongly recommended that schedules of plant items are regularly updated and that inspection and test results are maintained.

3.6 SAFE OPERATIONS

- 3.6.1 The Principal Contractor should ensure that the electricity supply to a site has been safely isolated before demolition commences. On some sites, demolition is a gradual or partial process and power for tools and lighting is required. For those parts of the installation not required during the course of the works, appropriate isolation measures, which may include removal of fuses as part of the process, should be taken by a competent person. The unwanted power supply should be 'locked off'.
- 3.6.2 A good site is well lit. Cable lying across slabs, staircases or floors is easily damaged and is thus a hazard. Cable can be protected in many ways; armoured, covered by boards, suspended above the work area, and so on. The Principal Contractor has a responsibility to reduce the chance of damage to cable and tripping over the cable.
- 3.6.3 Where a dedicated 230-volt supply is used on site within the constraints of Section 604 of the IEE Regulations, the use of armoured cable or cables mechanically protected may be appropriate under some site conditions.
- 3.6.4 Because electrical discharges can cause fires, suitable fire extinguishers should always be available on site. The number and their distribution will depend on the size and the type of building activity.
- 3.6.5 It is essential to box in the supply intake position and associated switchgear in a weatherproof enclosure and the site supervisor should ensure that the door is kept locked. The enclosure should be sufficiently robust to prevent accidental damage. Appropriate signage should be displayed on the outside of the enclosure.
- 3.6.6 Employers should insist that 'live' work is the exception, and that installations and repairs should only be conducted on 'dead' circuits whenever possible. When it is necessary to work on 'live' circuits, the employer should ensure that only competent personnel do the work. All cables must be treated as live until proven otherwise.

Other sources of information:

16th Edition of the Institution of Electrical Engineers.

Guernsey Electricity Code of Practice: The avoidance of danger from electrical cables on construction sites and public thoroughfares.

HSE publications

16th Edition of the Institution of Electrical Engineers.

GS6	Avoidance of danger from overhead electrical lines	ISBN 0 11 885668 5
GS24	Electricity on construction sites -	ISBN 0 11 883570
HS(G)141	Electrical safety on construction sites	1996 ISBN 0 7176 1000 4
HS(G)47	Avoiding danger from underground services	1989 ISBN 0 7176 0435
HS(G)85	Electricity at work: safe working practices	1993 ISBN 0 7176 0442
HS(G)118	Electrical safety in arc welding	1994 ISBN 0 7176 0704
HS(G)107	Maintenance of electrical equipment	ISBN 0 7176 0715
HS(R)25	Memorandum of guidance on the Electricity at Work Regulations, 1989	1989 ISBN 0 11 883963 2
PM32	Safe use of portable electrical Apparatus	1994 ISBN 0 7176 0448 9

PART III

Section 50 - 53
inclusive
1952 Safety of
Employees

Section 10

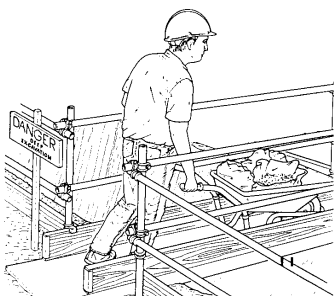
STANDARD FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 7 - EXCAVATIONS

50. An adequate supply of timber of suitable quality or other suitable material shall where necessary be provided and used to prevent, so far as is reasonably practicable and as early as is reasonably practicable in the course of the work, danger to any person employed from a fall or dislodgment of earth, rock or other material forming the side of or adjacent to any excavation or earth work. Without prejudice to the carrying out of any other examination found necessary to ensure compliance with the provisions of this section every part of an excavation or earth work, not being a part to which the proviso (i) below applies, shall be specially examined by a competent person at least once in every period of seven days for the purpose of assisting to ensure compliance with this section and in particular to see that timber and other supports are adequate and in good condition:

PROVIDED that -

- (i) the provisions of this section shall not apply where, having regard to the nature and slope of the side of the excavation or earthwork and other circumstances, no fall or dislodgment of earth or other material so as to bury or trap a person employed, or so as to strike a person employed from a height of more than four feet, is liable to occur;
- (ii) the provisions of this section shall not apply in relation to a person actually engaged in timbering or other work (including an examination as aforesaid) which is being carried out for the purpose of compliance with the provisions of this section, if appropriate precautions are taken to ensure his safety as far as circumstances permit:
- (iii) the foregoing requirements as to a special weekly examination shall not apply until the work has been in progress for a period of at least seven working days (whether continuous or not).



51. No excavation or earth work which is likely to reduce, so as to endanger any person employed, the security or stability of any part of any structure, whether temporary or permanent, shall be commenced or continued unless adequate steps are taken before and during the progress of the work to prevent danger to any person employed from collapse of the structure or the fall of any part thereof.

52. Every accessible part of an excavation, pit or opening in the ground into or down the side of which a person employed is liable to fall a vertical distance of more than 6 feet 6 inches shall be provided with a suitable barrier to a height of at least 2 feet and as close as is reasonably practicable to the edge:

PROVIDED that the foregoing requirement shall not apply to any part of an excavation, pit or opening while (and to the extent to which) the absence of such barrier is necessary for the access of persons or for the movement of plant or materials or while (and to the extent to which) it has not yet been practicable to erect such barrier since the formation of that part of the excavation, pit or opening.

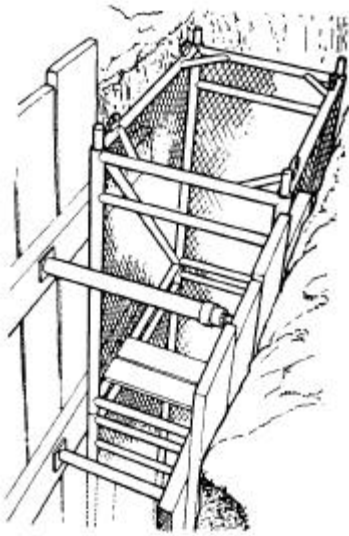
53. (1) Material shall not be placed or stacked near the edge of any excavation, pit or opening in the ground so as to endanger persons employed below.

(2) No load shall be placed or moved near the edge of any excavation where it is likely to cause a collapse of the side of the excavation and thereby endanger any person.

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To ensure safe and efficient excavation activities, management should consider the work under a number of headings:

Pre-planning
Method statement
Inspection
Other considerations.



PRE-PLANNING

1. Where the excavation affects or may affect the public highway, the Police, the Traffic Committee and the Parish Officials should be consulted well in advance of the proposed work.
2. A ground condition survey should be conducted which may include trial boring in some instances. The water content and water table will be of particular interest.
3. Management will use appropriate States Departments and the Gas Company to identify services in the vicinity of the proposed earth works.
4. Consideration should be given to other users of the site and to neighbouring properties to ensure that access and egress is restricted for minimum periods, or alternative routes provided. Special consideration should be given to providing access for emergency service vehicles.
5. Whenever possible, earth work activities should be undertaken by mechanical plant supported by workers.
6. Many excavations will require side support to prevent collapse. Good management will ensure that sufficient and suitable wood and/or steel supports are on site before the work commences.
7. If an existing building or structure may be affected by excavation work in the vicinity, a structural engineer may be required to advise on shoring or the provision of other support to prevent collapse.

METHOD STATEMENT

1. Some earth works will be of such potential risk that a detailed Method Statement should be created by a competent person familiar with that type of excavation.

The Method Statement should:

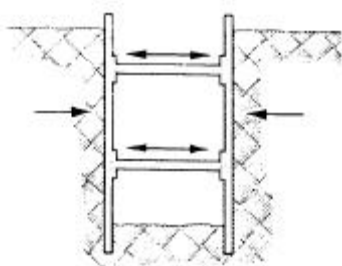
- a. identify the competent person in charge of the work;
- b. detail the sequence of excavation and include details of the method of support to be used;
- c. give details of ground investigations;
- d. contain arrangements for identifying and making safe any underground services in the vicinity of the work;
- e. contain details of methods of fencing off or covering the excavation when work is not proceeding.

The responsible person in charge of the excavation should not deviate from the Method Statement without reference to the author.

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INSPECTION

1. The 1952 Ordinance, Section 50, requires that an excavation is examined by a competent person at least once in every period of seven days.
2. The work of excavation frequently changes from hour to hour or day to day, therefore it is recommended that more frequent inspections are conducted by the competent person in charge of that work.
3. The integrity of the excavation can be affected by other site activities and severe weather conditions.
4. Those conducting inspections are encouraged to sign and date the relevant section in the General Register, or in the site diary.



OTHER CONSIDERATIONS

1. Management should ensure that those working in excavations are provided with an easy means of access or egress, usually in the form of a strong ladder.
2. The sides of the excavation should be fenced off. This management requirement has particular relevance when the work is conducted on public land, and when the excavation remains 'open' at the end of the working day. There are many methods of sealing off excavations, some of which are more likely to deter the unruly element in the population.
3. Management should ensure adequate arrangements for lighting are provided during hours of darkness.
4. Appropriate protective clothing should be provided and worn by persons engaged in the excavations. Noise levels are frequently high, and ear protection may be necessary.
5. Vibration can cause collapse of the excavation wall and therefore the proximity of roadways should be considered.
6. Spoil heaps and other heavy loads should not be located in positions near the excavation where they can cause a hazard.

Other sources of reference

HS(G) 88	Hand-arm vibration 1994	ISBN 0 7176 07437
HS(G) 115	Manual handling 1994	ISBN 0 7176 06937
	Safe working with small dumpers 1983	ISBN 0 11 883693
GS5	Entry into confined spaces 1995	ISBN 0 7176 07879
HS(G) 47	Avoiding danger from under- ground services 1989	ISBN 0 7176 04357

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 8 - EXPLOSIVES

PART III
Explosives
(Guernsey) Law
1905

ACOP

An English translation of the Order in Council of the 12th January 1905 sanctioning the Law Relative to Explosives can be obtained through the Health and Safety Executive.

1. The importation, storage and use of explosives are authorised subject to conditions prescribed by license under the 1905 law.
2. All imports are supervised by the Inspector of Explosives and the premises licensed to store explosives undergo regular visits and I thorough inspections.
3. Explosives are used in a number of civil engineering projects and a list of those companies and individuals licensed to use explosives I can be obtained by contacting the Health and Safety Executive at Burnt Lane.
4. No explosive work should be conducted without prior creation of a Method Statement and its full and proper implementation.

5. The guidance in this Safety Standard is brief. The message is that no one in the construction industry who is not licensed may use explosives. Only those who are licensed by the Health and Safety Executive are permitted to use explosives.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 9 - FALSEWORK

PART I

Section 1(1),
(2)(a) and (d)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

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1. Falsework can be defined as "any temporary structure used to support a permanent structure during its erection and until it becomes self-supporting".
2. Whilst the industry suffers frequent collapse of simple systems of temporary support, spectacular collapses may cause loss of life or serious injury.
3. It is convenient to divide falsework into two categories:
 - 3.1 Support for floors and beams involving light loading and low I height of support (within the range of standard props) and capable of solution by standard designs.
 - 3.2 All other situations requiring individual design, by persons competent to do so.
4. "Standard designs" referred to in paragraph 3.1 above means a package of information including:
 - 4.1 details of materials and equipment to be used;
 - 4.2 adequate dimensional data for its erection;
 - 4.3 permissible tolerances;
 - 4.4 types of foundation;
 - 4.5 loadings.
5. Falsework failure can result from:
 - 5.1 incorrect estimation of loadings;
 - 5.2 an error in the design, or altered loadings after the design is completed;

ACOP

- 5.3 inadequate detailing and/or execution of points of load transference;
- 5.4 inadequate horizontal or lateral bracing;
- 5.5 inadequate foundations.

6. Whether the falsework design is provided by standard solutions or individual design, it is the responsibility of the Principal Contractor to ensure that the parameters on which the design will be based are clearly set down and understood. In this respect, the loads imposed on falsework do not only arise from the permanent structure. In estimating the loads to be supported, three aspects must be considered:

- 6.1 The weight of the permanent structure. In situ and pre-cast concrete unit weights should not be underestimated. The recommended weights are:

6.1.1 Pre-cast concrete units	...	2,700 kg/m ³
6.1.2 In situ concrete	...	2,500 kg/m ³

Manufacturer's tables should be consulted when structural steel is to be supported.

- 6.2 Loading sequence. The way in which loads are applied can have a major effect on individual members within the falsework design. Consideration should be given to;

- 6.2.1 the sequence of pouring;
- 6.2.2 internal or external vibration;
- 6.2.3 method and sequence of post tensioning;
- 6.2.4 any unplanned lateral loads that could occur.

- 6.3 Plant and method loads. It is essential that these are considered at the design stage as they can produce significant additional loads. Considerations may include:

- 6.3.1 the weight of plant or equipment or materials to be loaded on the slab;
- 6.3.2 what dynamic loads may be applied. These could include:
 - 6.3.2.1 dumping loads from concrete skips;
 - 6.3.2.2 shock loads from pre-cast slabs or steel members;
 - 6.3.2.3 surge loads;
 - 6.3.2.4 vibration forces.
- 6.3.3 arrangements to allow movement of vehicles through the falsework if such movement is necessary.

- 6.4 The erection of the falsework to the standard design or individual design must be undertaken by persons who are experienced and competent to do the work. They will take into consideration:

- 6.4.1 the materials to be used shall be in accordance with the design;
- 6.4.2 the foundations. In many instances with simple support structures, the design may not cover foundation issues and therefore the erectors should use an assessed method based on the worst situation scenario;
- 6.4.3 Detailing and/or execution of points of load transference. These points are where:
 - 6.4.3.1 loads from the permanent structure are collected and transferred to vertical and inclined support; loads from vertical or inclined supports are resisted by foundations.



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- 6.5 Bracing and lacing. Whilst vertical loads are the principle concern in designing falsework, there may be horizontal forces, which need to be considered. The causes of these horizontal pressures may not be clearly understood but bracing and lacing should be recognised as critical elements in falsework.
7. All material used in falsework must be sound and suitable for its designed operation. This applies to timber, steel, and props. The pins must be high tensile as supplied and not of any alternative materials, and the equipment must be as manufactured, with no unofficial repairs.
 8. All equipment and falsework should be inspected on a planned and regular basis.

Other sources of information.

HSE Publications

HS(G)32	Safety in falsework for insitu beams and slabs 1987 ISBN 0 11 883900 4
HS(G)115	Manual handling: solutions you can handle 1994 ISBN 0 7176 06937

Recommendations of the Bragg Committee: for Falsework:
BS5975 Code of Practice
Available from British Standards Institute

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 10 – FLAMMABLE MATERIALS

PART I

Sections 1(1) and
(2)(a), (b) and (d)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
 - (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (b) arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health, in connection with the use, handling, storage and transport of articles and substances;
 - (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

PART I

Section 14

1952 Safety of
Employees

14. (1) Where, in connection with any grinding, sieving, or other process giving rise to dust, there may escape into any workroom dust of such a character and to such an extent as to be liable to explode on ignition, all practicable steps shall be taken to prevent such an explosion by enclosure of the plant used in the process, and by removal or prevention of accumulation of the dust, and by exclusion or effective enclosure of possible sources of ignition.

(2) Where there is present in any plant used in any such process as aforesaid dust of such a character and to such an extent as to be liable to explode on ignition, then, unless the plant is so constructed as to withstand the pressure likely to be produced by any such explosion, all practicable steps shall be taken to restrict the spread and effects of such an explosion by the provision, in connection with the plant, of chokes, baffles and vents or other equally effective appliances.

(3) Where any part of a plant contains any explosive or inflammable gas or vapour under pressure greater than atmospheric pressure, that part shall not be opened, except in accordance with the following provisions:

(a) before the fastening of any joint of any pipe connected with the part of the plant or the fastening of the cover of any opening into the part is loosened, any flow of the gas or vapour into the part or into any such pipe shall be effectively stopped by a stop valve or otherwise;

(b) before any such fastening as aforesaid is removed, all practicable steps shall be taken to reduce the pressure of the gas or vapour in the pipe or part of the plant to atmospheric pressure;

and if any such fastening has been loosened or removed as aforesaid, no explosive or inflammable gas or vapour shall be allowed to enter the pipe or part of the plant until the fastening has been secured, or, as the case may be, securely replaced:

PROVIDED that this subsection shall not apply to plant installed in the open air.

(4) No plant, tank or vessel which contains or has contained any explosive or inflammable substance shall be subjected to any welding, brazing or soldering operation or to any cutting operation which involves the application of heat, until all practicable steps have been taken to remove the substance and any fumes arising therefrom, or to render them non-explosive or non-inflammable; and if any plant, tank, or vessel has been subjected to any such an operation as aforesaid, no explosive or inflammable substance shall be allowed to enter the plant, tank or vessel until the metal has cooled sufficiently to prevent any risk of igniting the substance.

(5) The Authority may by certificate grant, subject to any conditions specified in the certificate, exemption from compliance with any of the requirements of the last two foregoing subsections in any case where it is satisfied that compliance with the requirement is unnecessary or impracticable.

(6) In this section the expression "any cutting operation which involves the application of heat" shall include any operation involving the application of heat for the purpose of taking apart or removing the plant, tank or vessel or any part of it.

Mineral Oils or
Essence Law
1924

This law relates to the storage of larger quantities of petroleum products on site. Advice should be sought from the Health and Safety Executive.

ACOP

1. The guidance contained in this Safety Standard refers to:

- 1.1 Highly flammable liquids; and
- 1.2 Liquefied petroleum gases.

2. Both of the substances can be hazardous unless properly handled, used and stored on site. This guidance will deal with both substances separately although many of the precautions needed in the storage, handling and use of these products will be common to both.

HIGHLY FLAMMABLE LIQUIDS (HFL)

3. These products are found extensively on building sites, being used as solvents in adhesives, finishing products and other materials. Liquefied petroleum gas is used as a source of power for heating and for cooking. It is also used as a fuel for burning metal, welding, melting bitumen and lead, and for flame torches used by many of the trades. They are defined as having a flashpoint of less than 32°C and supporting combustion at 50°C.
4. The HFL products are easily recognisable by appropriate signs on the containers.
5. HFL's normally give off vapours that are heavier than air. These are flammable and toxic. There are thus the twin risks of accidental ignition or explosion, or the accidental inhalation of toxic vapours.
6. There are a number of safeguards to be considered when quantities of HFL are stored and used on site.
 - 6.1 They should be contained in an open-air compound, shielded from the direct rays of the sun and surrounded by a bund that will contain the maximum contents of the largest drum stored, plus 10%. The bund should be kept clear of rainwater and waste material;
 - 6.2 Products, which could add to the intensity of a fire, e.g. oxygen, or add to the toxic hazard, e.g. chlorine, should not be stored in the same compound;
 - 6.3 The floor of the compound should be paved or compacted level;
 - 6.4 Ideally, these large storage areas of cylinders containing HFLs should be sited at least 10 metres from any building;
 - 6.5 Containers should be stored upright;
 - 6.6 When it is necessary to store HFLs in a workroom, quantities should be kept to a minimum and not exceed 50 litres: They should be stored in a cupboard or bin made of fire resistant material;
 - 6.7 There should be a sign "Highly Flammable Liquid" boldly displayed on the outside of the compound or container, as should "No Smoking" and "No Naked Lights" signs;
 - 6.8 Flame proof electrical appliances should be used when working with HFLs ... 8S5345 and 8S889;
 - 6.9 Adequate number of appropriate extinguishers should be sited at the entrance to storage areas;
 - 6.10 When HFLs are to be used in confined spaces, and there is no safer alternative, management must ensure that there is adequate natural or forced ventilation;
 - 6.11 Waste contaminated with HFLs poses a high risk. Such waste may be on the floor or in bins. A light or spark could cause the explosion or ignite the fire. Housekeeping standards should be maintained to reduce or remove this risk;
 - 6.12 Adhesives used for wall and floor finishings may give off toxic vapours. To reduce the risk to workers who are required to use these products, the manufacturers' recommendations should be strictly followed;
 - 6.13 Many of the HFL products used are brought to site by subcontractors. Site Management should be aware of their general duty of care towards the

health and safety of all site workers, and therefore initiate controls over the use of HFLs by sub-contractors and self employed;

6.14 Many of the substances referred to in this Safety Standard are covered by the United Kingdom's COSHH Regulations. Refer to Part III Section 10 No. 11 - Hazardous Substances for further guidance.

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7. Petroleum products present particular risks and therefore require thorough precautions. These may include:
 - 7.1 Storage of containers in fire resistant cabinets or bins;
 - 7.2 Use of suitable containers with signs on the outside stating 'Petroleum'. Unmarked, ex-drink containers should not be used as containers for petroleum products;
 - 7.3 Petrol should not be used as a cleansing agent;
 - 7.4 Only small quantities of petroleum products, necessary for use in the short term, should be brought to or stored on site;
 - 7.5 **PETROLEUM STORAGE:**

Storage of larger quantities of petroleum products on site may infringe the Mineral Oils or Essences Law of 1924. Management is advised that they should seek advice from the Health and Safety Executive if they, or a sub-contractor, plan to store significant quantities of petrol on site.

LIQUEFIED PETROLEUM GASES (LPG)

8. LPG is defined as commercial butane, commercial propane or any mixture of both. They are sold under a range of trade names. The design and construction of the cylinders and components is governed by the UK's Pressure Systems and Transportable Gas Containers, 1989, and the cylinders will be marked with design pressures and temperatures.
9. LPG is colourless and heavier than air and will flow down slopes. The vapour may remain in still air conditions for some time and if ignition occurs at a remote point the resulting flame may travel back to the source of the leak. In confined spaces, the ignited vapour/air mix may lead to an explosion.
10. The vapour is not toxic but can produce a narcotic effect leading to asphyxiation.
11. Leaks from cylinders can be detected by smell and by condensation or frost deposits around the point of escape. Severe frost burns can result from contact between the escaping gas and skin. Leakage of the gas will normally be detected by smell before the air/gas mix assumes explosive proportions.
12. Quantities of LPG cylinders should be stored in fenced in compounds with doors that open outwards. The floor should be compacted and paved and the cylinders protected from extremes of weather. Rubbish should not be allowed to accumulate in the compound, and there should be no access to nearby drains or cellars where the heavy gas may run and settle.
13. The storage area should be located at a safe distance from boundaries, buildings or sources of ignition. The distance will vary with volume of LPG and whether or not a fire wall is provided. As a general rule, quantities up to 1,000 kilograms should not be stored closer than three metres to a boundary, building or source of ignition.

ACOP

14. If quantities of LPG in excess of 1,000kg are to be stored on site, this fact should be communicated to the Fire Service so that they can determine the location of the cylinders and the access to this location should the brigade be called to deal with a fire.
15. Where LPG cannot reasonably and practicably be stored in the open air, the cylinders can be brought into the building providing:
 - 15.1 the cylinders are stored in a specially designed, half hour fire resistant structure on the ground floor;
 - 15.2 there are well dispersed ventilation openings (at high and low levels) to a safe place; I
 - 15.3 the maximum quantity stored is 5,000kg.
16. Where storage facilities are restricted, limited supplies of LPG may be stored in fire resistant cupboards or cabinets that are adequately ventilated.
17. All cylinders must be stored upright whether full or 'empty'.
18. All storage areas must display signs stating LPG, and similar to those listed in paragraph 6.7 above. I
19. All electrical equipment in LPG storage areas and within the stipulated safety zone must be of the flameproof variety. I
20. Cylinders should be carefully handled, loaded and unloaded to prevent damage and minimise the chance of leakage. When not in use, valve caps should be replaced to prevent accidental damage.
21. A "No Smoking" policy should be in force when any work with cylinders or the gas is conducted, and this policy should be rigidly enforced by management.
22. A sufficient number of fire extinguishers, preferably of the dry powder type to SS 5423, should be located around the storage area, and properly maintained. The minimum recommended size of extinguisher is one 4.5kg for every 450kg of LPG.
23. Only those who are trained and competent to connect cylinders, test before use, light up and shut down, and deal with the flame out, procedures should undertake these operations, and maintain the' equipment.

EMERGENCY ACTION IN THE EVENT OF A SERIOUS LEAK

1. The principal aim must be to prevent injury to those on site and those others who may be affected by the spillage.
2. Evacuate the site of all those who are not involved with dealing with the leak.
3. Summon the Fire Service and, if necessary, the Police.
4. The site supervisor should co-operate fully with the essential services.

ACOP

LEAKAGE WITHOUT FIRE. Additional measures:

1. Shut off the gas supply at the earliest moment.
2. If possible remove defective cylinders to a safe location.
3. Establish and impose a safe area. This will depend on volume of spillage and weather conditions.

4. Avoid creating ignition hazards such as fire, vehicle engines, electrical equipment and the like.

LEAKAGE WITH FIRE. Additional measures:

1. Attempt to shut down the gas supply. At least examine the possibility of restricting the flow of gas.
2. If it is possible to cut off the gas supply, attempt to extinguish the fire, and any secondary blaze, which could extend the effect of the fire.
3. Adjacent cylinders may be affected by the heat of the fire, and there is the risk of explosion. This risk can be reduced by removing cylinders and/or spraying cooling water on those that remain near the source of the heat.
4. Always work upwind of a leakage and use whatever protection may be available.

Other sources of information.

HSE publications.

- | | |
|-----|---|
| CS4 | The keeping of LPG in cylinders and similar containers
ISBN 0 717 606317 |
| CS6 | The storage and use of LPG on construction sites
ISBN 0 11 883391 |

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARDS No.11 – HAZARDOUS SUBSTANCES

PART 1
Section 1(1) and
(2) (b) (c)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

 (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular -
 - (b) arrangements for ensuring, so far as is reasonably practicable, safety and absence of risks to health, in connection with the use, handling, storage and transport of articles and substances;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably

ACOP

1. A very large number of potentially toxic or hazardous substances and materials are used on building sites and the employer has a general duty of care to take all necessary precautions to ensure that workers do not suffer harmful effects from their use or exposure to the effects.
2. Hazardous substances can be classified under these headings:

- 2.1 Dusts such as cement, man made mineral fibre, gypsum, I silica and wood dust;
 - 2.2 Fumes and gases such as welding, cutting and brazing, I hydrogen sulphide, carbon dioxide and carbon monoxide;
 - 2.3 Chemical products such as solvents and resin systems, preservatives and fungicides, lubricants, acid and alkalis and I site contaminants.
3. The hazardous substances can cause immediate or long term effect I on the health of an individual, and thus reduction in the quality of life may result from:
 - 3.1 inhalation in the form of dust, vapour, gas, fumes or mist;
 - 3.2 skin absorption into the blood stream or localised irritation, dermatitis or skin cancer;
 - 3.3 ingestion, often due to poor hygiene arrangements;
 - 3.4 penetration as the result of a puncture wound or abrasion to the skin.
4. All hazardous substances originating from the United Kingdom are controlled by the Chemicals (Hazard Information and Packaging) Regulations 1993. These CHIP Regulations require suppliers to:
 - 4.1 provide sufficient information so that hazardous substances may be used safely;
 - 4.2 classify the substances according to their principal hazards and to this end containers must be labelled with the appropriate hazard warning symbol;
 - 4.3 print on the labels specific information about such hazards, describing the risks and necessary precautions;
 - 4.4 create and make available to all purchasers "Material Safety Data Sheets" with information set out under standard headings.
5. As employers are required under Guernsey law to provide such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of their employees, it is strongly recommended that employers who use hazardous substances obtain the necessary Hazard Data Sheets, make the information available to those who use the product, and file the Hazard Data Sheet for future use.
6. Whilst there is no specific legislation in the island similar to the Control of Substances Hazardous to Health Regulation, 1988, employers may wish to follow this guidance, which is the heart of the COSHH Regulations.
 - 6.1 The hazards linked to using any hazardous substance should be assessed before the substance is brought into use on site;
 - 6.2 The employer should implement a control programme, which may include the following:
 - 6.2.1 attempt to substitute a safer material, which will do the job as well;
 - 6.2.2 engineer local exhaust ventilation controls;
 - 6.2.3 apply the substance by brush rather than by spray;
 - 6.2.4 provide and use personal protective equipment for any member of the workforce who may be affected by the substance.

- 6.3 The site management should ensure that the safe systems of work, which have been introduced to reduce the risk, are in force and being used. Positive inspection and monitoring are therefore essential;
- 6.4 Where the risk to an employee is particularly high due to the nature of the substance or the frequency of its use, the employer should consider introducing a programme of health or medical surveillance, with the results of this surveillance stored on file;
- 6.5 Workers have a right to know of the hazards associated with any work expected of them, and it should be considered essential that all workers in this category receive appropriate instruction and training, and that full records are kept to demonstrate the employers' commitment to improving the knowledge and competence of the employees.
7. The risks associated with using hazardous substances in confined spaces are correspondingly higher because of the lack of ventilation. In these circumstances, the employer should ensure that an assessment is made in plenty of time to ensure that harmful effects are prevented, and forced exhaust ventilation may be an essential requirement.
8. Generators may have to be located on site to provide lighting or power for tools. Petrol or diesel exhaust fumes may present a hazard and the risk can be sharply reduced by extending the exhaust pipe with a flexible, fire resistant hose that will take the carbon monoxide fumes outside the confines of the site.
9. When hazardous substances have to be applied on site, for instance timber and wall treatment, it may be necessary for site management to close all or part of the site to ensure that no worker is placed at risk. In this case, it is essential that notices are displayed and barriers positioned to prevent casual use or unauthorised entry. It is important that the barriers and notices are not removed before the air quality has returned to normal.
10. There may be some instances where the hazard is such that respiratory equipment has to be employed. There are many types of respiratory equipment and the operator must be trained and competent in its use.
11. Employees are put at risk from dusty conditions which are common on dry, wind swept sites or during breaking out, demolition, excavation, batching or crushing, especially when these activities are within a building.
- To prevent the inhalation of dusts caused by these activities, site management should consider introducing such measures as dampening of floors, frequent vacuum cleaning and exhaust ventilation of power tools, and the issuing of personal protective equipment.
12. Some materials, particularly metals and metal coatings, may be hazardous as dusts from cutting or grinding, or as fumes when welding or gas cutting is in operation.
13. Corrosive materials, such as acids and alkalis used as cleaning agents, are capable of irritating or damaging the skin and eyes, and the nasal passages if an aerosol is used. Deeper penetration of the skin layers may result from severe misuse. As with all toxic substances, care is essential to devise and monitor safe systems of work, and in the case of corrosives this may mean appropriate personal protective equipment and high levels of training and instruction.
14. In general, hazardous substances should be stored under cover in dry, well ventilated and secure places. Security when the site is closed must also be considered. Oxidising and reducing agents should be kept apart, and manufacturers recommendations as regards storage complied with. For storage

of Flammable Materials refer to Safety Standard No. 10.

15. The user of hazardous substances has general responsibility to:

15.1 seal the container and arrange for its proper storage at the end of the working day;

15.2 ensure that unsealed containers are not left indiscriminately on site;

15.3 arrange for the proper disposal of the empty or partly empty container.

16. As the Principal Contractor or project manager has overall responsibility for health and safety on site, site management should ensure that sub-contractors inform management of the need to bring toxic or hazardous substances to site so that proper controls and systems of work can be introduced and monitored.

17. Asbestos fibre is a hazardous substance and the risks are so severe that separate guidance will be found in Part III Section 10 No. 2 Asbestos.

Guidance on the use of personal protective equipment is provided in Part III Section 10 No. 16.

Other sources of information.

HSE Publications

Control of substances hazardous to health and
control of carcinogenic substances
(ACOP) Booklet L5. ISBN 0 717608190

HS(G)37 Introduction to local exhaust
ventilation 1993 ISBN 0 717 610012

HS(G)54 The maintenance, examination and testing
of local exhaust ventilation 1990 ISBN 0 11 885438 0

HS(G)97 A step by step guide to COSHH
assessments 1993 ISBN 0 11 886379 7

HS(G)110 Seven steps to successful substitution
of hazardous substances 1994 ISBN 0 7176 0695 3

Remedial timber treatment in buildings:
A guide to good practice and the safe use
of wood preservatives 1991 ISBN 0 11 885987 0

The HSE publish Construction Industry Sheets on:

- 15 Confined spaces
- 26 Cement
- 27 Solvents

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 12 HEAD PROTECTION

PART I
Section 1(1)
and
(2) (c) and (e)
1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
(2)(c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
(e) the provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe, without risks to health, and adequate as regards facilities and arrangements for their welfare at work.

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1. The employer has a general duty of care towards his employees:
and...
2. The Principal Contractor, or project manager, has a general duty of care towards all who work on his site.
3. Each year a significant number of construction industry workers sustain minor and major head injuries that could easily be prevented by the wearing of head protection to British Safety standards.
4. The first priority of management is to prevent the object falling onto the head, but as these precautions cannot eliminate the risk, positive and proactive management will want to enforce the wearing of head protection where there is a risk of injury to the head.
5. The following is a list of construction work activities where head protection must be worn:
 - 5.1 Erection, altering or dismantling scaffolds;
 - 5.2 Work in association with lifts, cranes, hoists or similar plant;
 - 5.3 Work in association with scaffolds or platforms;
 - 5.4 Any work which takes an employee under another work activity;
 - 5.5 Any activity during which materials or debris is being lifted or lowered to a height;
 - 5.6 Any other activity which the manager or supervisor considers that the risk to the head can be reduced or eliminated by the wearing of head protection.
6. To provide a balanced viewpoint to this guidance, there are some work activities where head protection may not be necessary and these tasks or areas include:
 - 6.1 maintenance or decoration on completed buildings where there is no risk from people working above;
 - 6.2 site offices, cabins or canteens;
 - 6.3 the cab of vehicles and plant if provided with falling object protection;
 - 6.4 when all site work is at ground level such as kerb laying or resurfacing.
7. Injuries to the head can be sustained by contact with hard objects and therefore employees working in confined spaces may be required to wear head protection ... conform to BS EN 812 light duty.
8. The industrial safety helmet normally worn on building sites should conform to BS EN 812 heavy duty.

9. When selecting suitable head protection the management may wish to consider designs that include chin straps, ear defenders, face shields and lamp brackets where it is considered that work may require these extra features.
10. Whilst the general duty of care for an employee rests with the employer, the Principal Contractor or Project Manager is responsible for setting and maintaining safety standards on site. It may therefore be good management practice to declare a site as a 'Hard hat site' from day one, and manage the site to this standard.
11. Notices advising workers and visitors that this is a hard hat site should be located at or near site entrances. All visitors should be required to comply with management initiatives, which promote safety standards.
12. If head protection is required, the employer should provide this item at no cost to his employee.
13. The employee is required to take proper care of the head protection provided and to store it properly.
14. Where there is a risk of injury to the head it is not adequate to make hard hats available and leave the decision as to their wearing to the individual. As with all contractual issues and health and safety initiatives, the responsibility rests with the employer to impose the standards required by law or by sound modern management practices.

Other sources of reference

L25 Personal Protective Equipment at
Work Regulations 1992 1992 ISBN 0 7176 0415 2

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 13

HOISTS, LIFTS, CRANES AND TOWER CRANES

PART 1

Section 1(1) and
(2)(a)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;

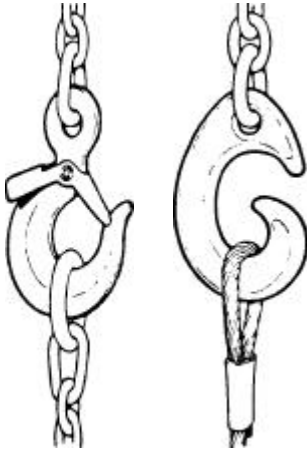
The 1987 Ordinance places a general duty of care on employers to ensure that all plant designed and intended to lift materials or personnel is not a risk to health.

This duty of care extends to anyone who is working on site and to members of the general public. As crane jibs frequently extend out over adjacent property and roads and footpaths, consideration must be given towards third parties and their property.

PART 1

Section 8

1952 Safety of
Employees



8. (1) Every hoist or lift shall be of good mechanical construction, sound material and adequate strength, and be properly maintained.

(2) Every hoist or lift shall be thoroughly examined by a competent person at least once in every period of six months, and a report of the result of every such examination in the prescribed form and containing the prescribed particulars shall be signed by the person making the examination and shall within fourteen days be entered in or attached to the general register.

(3) Every hoistway or liftway shall be efficiently protected by a substantial enclosure fitted with gates, being such an enclosure as to prevent, when the gates are shut, any person falling down the way or coming into contact with any moving part of the hoist or lift.

(4) Any such gate as aforesaid shall be fitted with efficient interlocking or other devices to secure that the gate cannot be opened except when the cage or platform is at the landing and that the cage or platform cannot be moved away from the landing until the gate is closed. PROVIDED that in the case of a hoist or lift constructed or reconstructed before the passing of this Ordinance which it is not reasonably practicable to fit with such devices as aforesaid, it shall be sufficient if the gate is provided with such arrangements as will secure the aforesaid objects so far as is reasonably practicable, and in any event is kept closed and fastened except when the cage or platform is at rest at the landing.

(5) Every hoist or lift and every such enclosure as aforesaid shall be so constructed as to prevent any part of any person or any goods being carried in the hoist or lift being trapped between any part of the hoist or lift and any fixed structure or between the counterbalance weight and any moving part of the hoist or lift.

(6) There shall be marked conspicuously on every hoist or lift the maximum working load which it can safely carry and no load greater than that load shall be carried on any hoist or lift.

(7) The following additional requirements shall apply to hoists or lifts used for carrying persons, whether together with goods or otherwise:

- (a) efficient automatic devices shall be provided and maintained to prevent the cage or platform overrunning;
- (b) every cage shall on each side from which access is afforded to a landing, be fitted with a gate, and in connection with every such gate efficient devices shall be provided to secure that, when persons or goods are in the cage, the cage cannot be raised or lowered unless the gate is closed, and will come to rest when the gate is opened:

PROVIDED that, in the case of a hoist or lift constructed or reconstructed before the passing of this Ordinance in connection with which it is not reasonably practicable to provide such devices as aforesaid, it shall be sufficient if such arrangements are provided as will secure the aforesaid objects so far as is reasonably practicable, and in any event the gate shall be kept closed and fastened except when the cage is at rest or empty; and

- (c) in the case of a hoist or lift constructed or reconstructed after the passing of this Ordinance, where the platform or cage is suspended by rope or chain, there shall be at least two ropes or chains separately connected with the platform or cage, each rope or chain and its attachments being capable of carrying the whole weight of the platform or cage and its maximum working load, and efficient devices shall be provided and maintained which will support the platform or cage with its maximum working load in the event of a breakage of the ropes or chains or any of their attachments.

(8) In the case of a continuous hoist or lift, subsections (3) to (7) inclusive of this section shall not apply and in the case of a hoist or lift not connected with mechanical power subsections (4) and (7) of this section shall not apply, and, in both the aforesaid cases, in subsection (2) of this section for the reference to six months there shall be substituted a reference to twelve months.

(9) Notwithstanding any of the foregoing provisions of this section the gate of any hoist or lift not connected with mechanical power shall be kept closed and fastened except when the cage or platform is at rest at the landing.

(10) For the purposes of this section, no lifting machine or appliance shall be deemed to be a hoist or lift unless it has a platform or cage the direction of movement of which is restricted by a guide or guides.

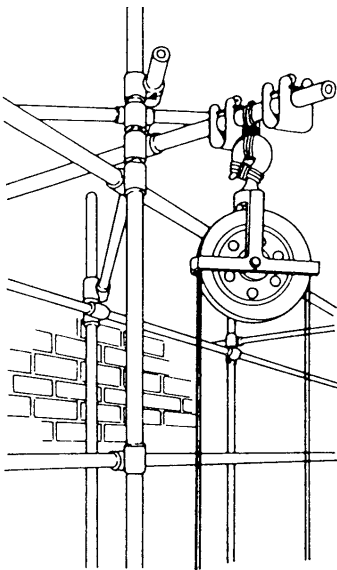
(11) Every teagle opening or similar doorway used for hoisting or lowering goods or materials, whether by mechanical power or otherwise, shall be securely fenced, and shall be provided with a secure hand-hold on each side of the opening or doorway. The fencing shall be properly maintained and shall, except when the hoisting or lowering of goods or materials is being carried on at the opening or doorway, be kept in position.

(12) If it is shown to the satisfaction of the Authority that it would be unreasonable in the special circumstances of the case to enforce any requirements of this section in respect of any class or description of hoist, lift, hoistway, liftway or teagle opening or similar doorway, it may direct that such requirement shall not apply as respects that class or description.

ACOP

HOISTS AND LIFTS

1. The 1952 law requires all lifts and hoists to be of sound material and construction and thoroughly and regularly maintained and inspected. They should only be used for the purpose for which they are designed and intended.
2. It is a legal requirement that all hoists including inclined hoists, and lifts are examined by a competent person at least once every six months. The competent person is required to sign that he has undertaken the examination and hand the inspection certificate to the contractor.
3. It is good management practice to ensure that a lift or hoist is inspected after installation and before it is first used and after the hoist or its support structure is struck or damaged. Careful checks of the over-run device and the arrestor gear must be included in the inspection. The inspection certificate should be attached to the General Register or filed.
4. It is good management practice to ensure that the operator of the hoist inspects the working mechanism of the hoist, the cage and the doors on a daily basis, and makes good any faults of which he is capable, or puts the hoist out of use until engineers have made the repairs and provided a certificate.
5. It is good practice to enclose the hoist with rigid netting or such-like material to prevent goods falling from the lift structure to adjacent areas of the site or to the roadway.
6. The operator(s) of the hoist should be trained in its operation and his/their name(s) displayed at the base of the hoist.
7. The safe working load of the hoist should be clearly marked on the door of the cage.
8. Personnel should not be allowed to travel on a materials hoist. A notice to this effect should be positioned at the base of the hoist.
9. Each level of the hoist should be fitted with a sliding gate, which should be closed during the operation of the hoist.
10. Particular care should be taken to avoid accidents at the base of the hoists. It is recommended that the entire operational area is fenced off to ensure that workers are not struck by the raising or lowering of the cage as they stray into the hoist operation area.
11. It has been a common practice to use a length of bent steel to act as a hook on the rope of a gin wheel. This is an extremely unsafe practice.



PART I

Section 10

1952 Safety of Employees

10. (1) All parts and working gear whether fixed or movable, including the anchoring and fixing appliances, of every lifting machine shall be of good construction, sound material, adequate strength and free from patent defect, and shall be properly maintained.

(2) All such parts and gear as aforesaid shall be thoroughly examined by a competent person at least once in every period of fourteen months and a register shall be kept containing the prescribed particulars of every such examination.

(3) There shall be plainly marked on every lifting machine the safe working load or loads thereof, except that in the case of a jib crane so constructed that the safe working load may be varied by the raising or lowering of the jib, there shall be attached thereto either an automatic indicator of safe working loads or a table indicating the safe working loads at corresponding inclinations of the jib or corresponding radii of the load.

(4) No lifting machine shall, except for the purpose of a test, be loaded beyond the safe working load as marked or indicated under the last fore-going subsection.

(5) In this section the expression "lifting machine" means a crane, crab, winch, teagle, pulley block, gin wheel, transporter or runway.

ACOP

CRANES

1. All cranes must be thoroughly examined by a competent person before being taken into use and proof load tested. The certificate of test must be kept available for inspection and should be renewed at least once in every four years. Subsequently the crane must be thoroughly inspected by a competent person at least once in every period of fourteen months. Records of these inspections should be filed and available for verification should the need arise.

2. The inspection of lifting apparatus applies equally to all slings, chains and ropes, hooks and shackles. The Safe Working Load (SWL) should be clearly marked on all these items. Damaged lifting gear should either be sent for repair or taken from site and destroyed. (See Part III Section 10 No 3 for further guidance).

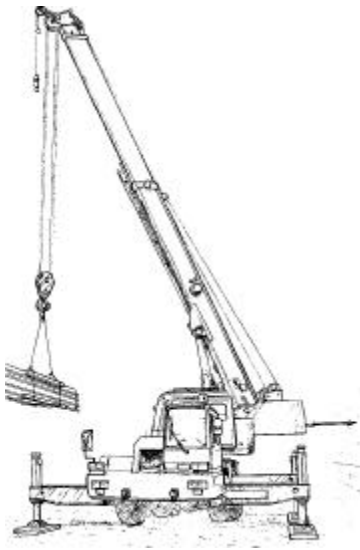
3. It is recommended that a competent person, probably the crane operator, inspects the operation of the crane on a weekly basis and takes appropriate action to have repairs made as the need arises. He should sign the General Register to indicate that he has made these inspections.

4. Operators of cranes should be trained to Construction Industry Training Board (CITB) standards for that machine, with documentary evidence available at request.

5. Those employees working at the hook end of the lifting operation should be trained in the skills of banksman or slinger. They should be able to communicate with the approved hand signals and be aware of the various slinging techniques. Two-way radios are commonly used between banksman and driver.

6. The hook attaching the load to the crane's rope should be of such a design as to prevent unintentional displacement of the load. To this end, a hook with a safety catch is probably the safest option.

7. The principal use of cranes is to reduce the need for manual handling. It is thus important that loads can easily be slung either by palletisation, or hooks, or landing loads on wooden 'spacers'.

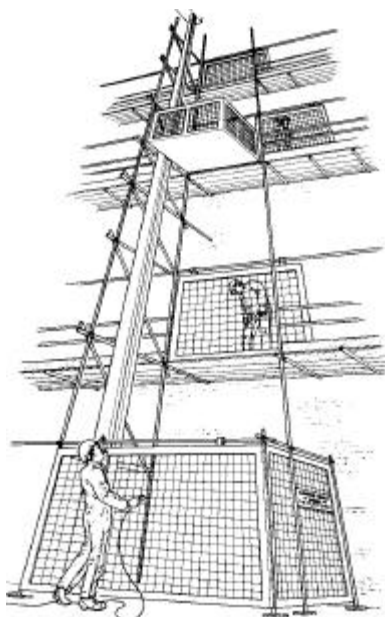


TOWER CRANES

ACOP

A number of special considerations relate to the erection of a static crane.

1. The base foundation will be specially designed.
2. The suppliers will normally install the tower crane and erect it to an agreed sequence in the Method Statement, which should be strictly followed.
3. A dedicated electricity supply will be agreed with the GE. (See Part III Section 10 No. 6 - Electricity).
4. Consideration should be given to overhead cable and the air space above adjacent properties.
5. All tower cranes should be subjected to a proof load test of +25% overload after assembly on site. This test should include operation throughout the 360° steering radius.
6. The crane operator will be trained to CITB standards in the use of the crane.
7. The lifting mechanism and gear will be inspected to the legal and good management standards referred to elsewhere in this Safety Standard Section, and the certificates of inspection will be filed for reference if needed.
8. Regular checks on safe working load indicators are essential and the operator should ensure that the crane is not operated whilst there are known defects.
9. Whilst any hoist, crane or other lifting device is operating on site it will be good safety management to declare the site a hard hat site, and to enforce this initiative.
10. Planned lifting operations rarely lead to accidents. It is the more casual use of cranes to perform apparently simple tasks, which all too often results in serious injury and expensive damage.



Accidents or incidents involving cranes will often be classified as Dangerous Occurrences reference Part IV, Section 14.

Other sources of reference:

HSE Publications

PM7	Lifts: thorough examination and testing	1982	ISBN 0 11 883546 7
PM24	Safety at rack and pinion hoists	1981	ISBN 0 11 883398 7
PM26	Safety at lift landings	1981	ISBN 0 11 883383 9
PM63	Inclined hoists used in building and construction work	1987	ISBN 0 11 883945 4
PM42	Excavators used as cranes	1984	ISBN 0 11 883591 2
PM54	Lifting gear standards	1985	ISBN 0 11 883520 3
L20	Guide to lifting plant & equipment regulations	ISBN 0 71	76 04888

Engineers Association

Waggoners Court, The Street, Mawnden,
Bishop's Stortford, Herts, CM23 1DW

Section 10

APPLICATION & RESPONSIBILITIES

SAFETY STANDARD No. 14 - LADDERS

PART III

Section 43

1952 Safety of Employees

43. (1) every ladder and stepladder shall be of good construction, sound material and adequate strength for the purpose for which it is used.

(2) Where a ladder is used as a means of communication or as a working place the ladder shall rise, or adequate handhold shall be provided, to a height of at least 3 feet 6 inches above the place of landing or the highest rung to be reached by the feet of any person working on the ladder as the case may be or if that is impracticable to the greatest practicable height:

PROVIDED that the provisions of this subsection shall not apply to a crawling ladder.

(3) Ladders or step ladders shall not stand on loose bricks or other loose packing, but shall have a level and firm footing.

(4) Every ladder shall so far as practicable be securely fixed so that it can move neither from its top nor from its bottom points of rest.

If it cannot be so securely fixed it shall where practicable be securely fixed at the base or if such fixing at the base is impracticable a person shall be stationed at the base of the ladder to prevent slipping. PROVIDED that the provisions of this subsection shall not apply to a ladder which is not more than 10 feet in length and which is not used as a means of communication, if the ladder is securely placed so as to prevent it from slipping or falling.

(5) every ladder shall be:

(a) secured where necessary to prevent undue swaying or sagging;

(b) equally and properly supported on each upright.

(6) Every ladder or run of ladders rising a vertical distance of over 30 feet shall if practicable be provided with an intermediate landing place or places so that the vertical distance between any two successive landing places shall not exceed 30 feet. Every landing place shall be of adequate dimensions and, if a person is liable to fall therefrom for a distance of more than 6 feet 6 inches, shall, except in so far as that is not reasonably practicable, be provided with sufficient and suitable guard-rails to a height of at least 3 feet above the landing place. Where a ladder passes through an opening in the floor of a landing place, the opening shall be as small as is reasonably practicable.

(7) No ladder shall be used which has:

(a) a missing or defective rung; or

(b) any rung which depends for its support solely on nails, spikes, or other similar fixing.

(8) No wooden ladder shall be used unless it is constructed with:

(a) uprights of adequate strength made of straight-grained wood free from defects and having the grain of the wood running lengthwise; and

(b) rungs made of straight-grained wood free from defects and mortised or securely notched into the uprights; and

(c) reinforcing metal ties if the tenons are not secured by wedges.

ACOP

1. The guidance in this section refers to any ladder or stepladder used on its own or in conjunction with scaffolding or any other rigid or temporary structure.
2. Ladders of all sizes are used on sites and are frequently misused, yet they are a basic piece of equipment used by everyone. Falls from ladders usually lead to serious injuries.
3. Every ladder should be of good construction, sound material and of suitable strength for its intended use. Ladders are constructed to different strengths and these are linked to British Standards. 'Home made' ladders have no place on building sites. Timber and aluminium ladders fall into three classifications.

- Class 1: heavy duty suitable for all construction work.
 Class 2: intended for lighter use such as decorating, mechanical and electrical work.
 Class 3: domestic use.

Classes 1 and 3 are covered by BS 1129 and BS 2037.

Class 2 ladders are covered by BS EN 131.

4. Ladders are often used out of doors and exposed to the elements for long periods. Wood rots, and stiles and rungs may lose their original load bearing ability. Ladders should be frequently inspected and any showing signs of splitting, wear, damage or deterioration should be cut up or destroyed.
5. It is strongly recommended that all wooden ladders should be constructed with wire tie rods. When in use, the tie rods should be on the underside of the rung.
6. Whilst aluminium ladders may be less affected by atmospheric conditions, they can be damaged so they should also be subjected to regular inspections.
7. Ladders and stepladders should always be placed on a sound, level and firm base.
8. Ladders should be firmly tied in place, preferably by both stiles; this requirement should present no problem on scaffolds but may be more difficult to achieve on a vertical wall or a steel framework. There are however solutions and these may include footing a ladder, tying the ladder to a proprietary bolt imbedded in the wall, or steel, or using another means of access such as a tower scaffold.
9. The correct slope for a ladder is an angle of 75° to the horizontal, that is one metre out for every four metres of height. Tower scaffold access is frequently via vertical ladders positioned inside the tower.
10. Except for colour coding and identification, ladders should not be painted. Painted ladders should not be used as this may cover defects.
11. Ladders should extend at least one metre above the landing place unless there is a suitable handhold to provide alternative support.
12. Extending ladders need an overlap of at least three rungs.
13. Step ladders are stable in one plane, less stable in the other. It is unsafe to work from the top platform unless a handhold is provided. It is potentially dangerous to over reach whilst using a stepladder.
14. Stepladders should not be used to gain additional height by placing them on scaffold or trestle platforms unless the stepladder is firmly tied to prevent overbalancing or collapse.
15. Metal ladders and timber ladders with metal stile reinforcement should not be used where any electrical hazard exists.
16. It is worth remembering that most ladder accidents happen on thirty minute jobs and are principally caused by poor placing and fixing, overstretching leading to overbalancing, and carrying loads.

Three additional items of advice for anyone who is required to work on ladders.

17. Do not carry heavy, long or awkward items up the ladder.
18. Carry tools in a shoulder bag or holster attached to the belt so that both hands are free to hold the ladder or to undertake the work.
19. Do not over reach whilst working from the ladder.

ROOF LADDERS

20. Roof ladders and crawling boards should be purpose made for the job.
21. The anchorage at the top of the roof ladder should not rely, or solely rely, on the ridge capping which may be of unknown strength. Some additional method of positive tying should be employed.
22. There is an area of considerable risk at the point where a worker transfers his weight from an access ladder at fascia board height to a roof ladder, and when the movement is reversed.
23. Further guidance on the use of ladders on roof work can be found in Part III, Section 10, number 19 - Roof work.

Other sources of information

GS 31	Safe use of ladders, stepladders and trestles	1984	ISBN 0 717 610233
GS 42	Tower scaffolds	1987	ISBN 0 11 883941 1

HSE Construction Information Sheet No. 2. Safe use of ladders

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 15 – NOISE REDUCTION TECHNIQUES

PART 1

Section 1(1),
(2)(a) and (c)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;

1. Excessive noise energy entering the ear system invokes a protection reflex, which makes the system less sensitive to low noise levels. This is known as threshold shift. Short-term duration exposure results in temporary threshold shift but recovery then takes place. Repeated and prolonged exposure to noise can result in irreversible threshold shift and ear damage and is therefore the chronic result of working for long periods in a noisy environment.
2. Noise is measured in decibels on a scale of 0 - 160 and weighted in such a way as to be expressed dB. A noise dose is a measure, which expresses the amount of noise measured as a percentage, where eight hours at a continuous noise level of 90 dB(A) is taken as 100%. 120 dB(A) is considered the pain threshold.



EAR PROTECTION ZONE

**EAR PROTECTORS MUST
BE WORN**

3. Employers are required under their general duty of care to take appropriate action to prevent damage to the hearing of their employees. Employers must be aware of the two action levels and take appropriate action. This is explained in paragraphs 6, 7 & 8 towards the end of this Safety Standard.

CONTROLLING NOISE

4. The employer has a responsibility to make an assessment of noise levels and take all appropriate action to reduce noise. These actions may include:
 - 4.1 Engineering controls. In this instance, the employer should attempt to purchase plant and equipment with low vibration and noise characteristics. Some jackhammers are quieter than others, some generators have a very quiet performance, and so on.
 - 4.2 Orientation and location. It may be possible to move the noise source away from the work area, or turn the machine around.
 - 4.3 Enclosure. Limited noise reduction may be achieved by surrounding the machine with sound-absorbing material.
 - 4.4 Use of silencers. These should be maintained and replaced as necessary.
 - 4.5 Lagging. Particularly relevant on pipework.
 - 4.6 Screens. These can reduce the effects of direct noise transmissions.
 - 4.7 Isolation of workers. It is preferable to expose one rather than two workers to the potential harmful effects of noise. Isolation therefore restricts the number of employees in the noise zone, or restricts the number of occasions they move into or through the noise zone.
 - 4.8 Personal protection. If all other attempts taken to reduce noise levels to the First Action Level (85 dB(A)) or below fail, then the employer must consider the desirability or need to provide some form of hearing protection for his employees.

CHOICE OF HEARING PROTECTION

5. There are many types of hearing protection and the choice depends on the frequency component of the noise. Noise is seldom a pure tone. The retail supplier should be able to advise on the type of protection for a specific noise source. However, there are two 'usual' forms of hearing protection:
 - 5.1 Ear plugs. These fit into the ear canal and are often disposable; they can present hygiene problems. The earplug contracts and then expands, and is thus held to the walls of the canal under its own pressure.
 - 5.2 Ear muffs. These are rigid cups held in place by a headband, or worn in conjunction with a safety helmet. It is essential that the cup fits closely to the skull and in this regard employees wearing earrings or glasses may lose the full benefit of wearing earmuffs.

ACTION LEVELS: FIRST, SECOND AND PEAK

6. Paragraph 3 emphasised the legal duty of the employer to protect employees from the harmful effects of noise. The employer has to reduce the risk of damage to the hearing of his employees by limiting their-exposure to the lowest level reasonably practicable.

7. More specific action has to be taken by the employer if the daily personal noise exposure level exceeds 85 dB(A) - The First Action Level. This action should include information and training about the risks to hearing and what they should do to minimise the risks:
 - 7.2 provide ear protection to all employees who request it.
8. The Second Action Level is attained if the daily noise dose is at or exceeds 90 dB(A). At and above this reading:
 - 8.1 the employer should take all reasonable steps to reduce or control noise levels and/or;
 - 8.2 the employer should designate and mark ear protection zones with notices and ensure, as far as reasonably practicable, that anyone who moves into the zone wears suitable ear protection;
 - 8.3 employers must provide ear protectors to all employees working in such a zone;
 - 8.4 the 1987 Ordinance places a duty on all employees to comply with this type of management initiative.
9. If the employer is to fulfil his duty of care to prevent ear damage to his employees, an assessment of noise exposure should be undertaken by a competent person.
10. The reader should also refer to Part III Section 10 No. 16 Personal Protective Equipment.

Other sources of information.

HSE Publications

HSE Noise Guides HS(G)56

- | | | |
|---|--|--------------------|
| No. 1 | Legal duties of employers to prevent hearing damage. | |
| No. 2 | Legal duties of designers, manufacturers, importers and suppliers to prevent hearing damage. | ISBN 0 717 604543 |
| Nos 3-8 | Noise at Work : assessment, information and control. | ISBN 0 11 885430 5 |
| IND(G)75(L) Introducing the Noise at Work Regulations | | |
| IND(G)99(L) | Noise at Work : advice to employees. 1995 | ISBN 0 7176 0962 6 |
| IND(G)127(L) | Noise in construction | |

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 16 PERSONAL PROTECTIVE EQUIPMENT (PPE)

PART 1

Section 1(1) and
(2) (c) and (e)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular—
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
 - (e) the provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe, without risks to health, and adequate as regards facilities and arrangements for their welfare at work.

Section 21

1952 Safety of
Employees

21. (1) In the case of any of the processes referred to in the next succeeding subsection being a process which involves a special risk of injury to the eyes from particles or fragments thrown off in the course of the process, suitable goggles or effective screens shall be provided to protect the eyes of the persons employed in the process.

- (2) The following are the processes referred to in the last preceding subsection:

Dry grinding of metals or articles of metal applied by hand to a revolving wheel or disc driven by mechanical power.

Turning (external or internal) of non-ferrous metals, or of cast iron, or of articles of such metals or such iron, where the work is done dry, other than precision turning where the use of goggles or a screen would seriously interfere with the work, or turning by means of hand tools.

Welding or cutting of metals by means of an electrical, oxyacetylene or similar process.

The following processes when carried on by means of hand tools or other portable tools:

Fettling of metal castings involving the removal of metal. Cutting out or cutting off (not including drilling or punching back) of cold rivets or bolts from boilers or other plant or from ships. Chipping or scaling of boilers or ships' plates. Breaking or dressing of stone, concrete or slag.



ACOP

1. The employer has a general duty of care towards his employees and...
2. The Principal Contractor, or project manager, has a general duty of care towards all who work on his site.
3. At the present time there is no specific legislation in the Island that is equivalent to the United Kingdom's Personal Protective Equipment at Work Regulations 1992, but workers are subject to the same risks as their colleagues on the Mainland.
4. PPE may be necessary to prevent short and long term accidents if other measures to remove the risk are unsuccessful.

5. For the purposes of this guidance, PPE is normally provided to prevent the following types of medical condition:

- 5.1 Loss or partial loss of hearing;
- 5.2 Loss of sight in one or both eyes;
- 5.3 Injuries to the head can be sustained by contact with hard objects and therefore employees working in confined spaces may be required to wear head protection (see Safety Standard No. 11 - Head Protection);
- 5.4 Injuries to the feet;
- 5.5 Respiratory conditions;
- 5.6 Skin complaints.

6. Modern health and safety management places a responsibility on the employer to take all reasonable precautions to remove or reduce the risk at source. If all other preventative measures fail to eliminate the risk then PPE should be provided.



7. This paragraph demonstrates the procedures to be followed which identify the hazard and then eliminate entirely or partially the risk. This illustration relates to the application of a harmful substance to wood/stone during the renovation of an old building.
 - 7.1 Identify the substance and establish the risks associated with its use;
 - 7.2 Establish whether a safer substance will do the job as well;
 - 7.3 Apply the product when there are the least number of tradesmen on site. This may entail evening or weekend work
 - 7.4 Use local or general ventilation to reduce the risk;
 - 7.5 Segregate the application area from unintentional use by other workers. Erect barriers and display appropriate signs;
 - 7.6 Maintain barriers and signs until the area is safe for tradesmen to re-enter;
 - 7.7 If there remains a risk to any members of the workforce then suitable PPE should be supplied and worn. It should be emphasised, however, that PPE is the last line of defence.
8. The same assessment and action plan applies to all hazards, which may ultimately require the supply and use of PPE. The employer should make the risk assessment and follow this guidance sequence.
9. Employees must not be charged for PPE where the provision of the particular type of protective equipment is necessary in view of the hazard associated with the work.
10. It will make the task of enforcing the wearing of PPE on site, that much easier if management display statutory signs (blue and white) in the areas of risk.
11. Those working in the construction industry may be required to use any one of several thousands of potentially harmful substances.

The manufacturer and distributor have to prepare and make available hazard sheets, which detail the risks to the users of the product, and the precautions that should be taken.

12. The PPE provided for employees should:

- 12.1 fit the wearer;
- 12.2 provide the necessary protection;
- 12.3 be used throughout the period when the employee is at risk;
- 12.4 be comfortable to wear;
- 12.5 be properly maintained or replaced.

Note: This guidance does not extend into the use of breathing apparatus and work in confined spaces.

Asbestos dismantling and disposal is dealt with separately (see Part III Section 10 No. 2 - Asbestos).

- 13. The employee is more likely to wear the PPE if he is made aware of the risks involved, the measures taken to reduce the risk and the benefits of wearing the PPE. This is another, example of the need for and advantage of training.
- 14. It makes the wearing of PPE that much easier to enforce if management set the highest possible standards in their own behaviour.

Other sources of reference

CRR 28/1991	Investigations of machinery noise reduction at source	1991	ISBN 0 11 885902 1
CRR 54/1993	Attitudes towards noise as an occupational hazard. 2 volumes	1993	ISBN 0 11 882128 8
HS(G) 37	Introduction to local exhaust ventilation	1993	ISBN 0 717 610012
HS(G) 56	Noise at work guides 3 to 8	1990	ISBN 0 11 885430
	5 Essentials of health and safety at work		ISBN 0 7176 0716
L25	Guidance on Personal Protective Equipment at Work	1992	ISBN 0 7176 0415 2

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 17 – PRESSURE VESSELS AND APPARATUS

PART 1
Section 1(1) and
2(a)
1987 Ordinance

- 1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular:
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;

PART 1

Sections 15, 16
And 17

1952 Safety of
Employees

15. (1) Every steam boiler, whether separate or one of a range:
- (a) shall have attached to it:
 - (i) a suitable safety valve, separate from any stop valve, which shall be so adjusted as to prevent the boiler being worked at a pressure greater than the maximum permissible working pressure and shall be fixed directly to, or as close as practicable to, the boiler;
 - (ii) a suitable stop valve connecting the boiler to the steam pipe;
 - (iii) a correct steam pressure gauge connected to the steam space and easily visible by the boiler attendant, which shall indicate the pressure of steam in the boiler in pounds per square inch, and have marked upon it in a distinctive colour the maximum permissible working pressure;
 - (iv) at least one water gauge of transparent material or other type approved by the Authority to show the water level in the boiler, and, if the gauge is of the glass tubular type and the working pressure in the boiler normally exceeds forty pounds per square inch, the gauge shall be provided with an efficient guard but not so as to obstruct the reading of the gauge;
 - (v) where it is one of two or more boilers, a plate bearing a distinctive number which shall be easily visible; and
 - (b) shall be provided with means for attaching a test pressure gauge; and
 - (c) unless externally fired, shall be provided with a suitable fusible plug or an efficient low-water alarm device:

PROVIDED that sub-paragraph (ii) of paragraph (a) of this subsection shall not apply with respect to economisers, and sub-paragraphs (iii), (iv) and (v) of paragraph (a), and paragraphs (b) and (c) of this subsection shall not apply with respect to either economisers or superheaters.

(2) For the purposes of the last foregoing subsection, a lever-valve shall not be deemed a suitable safety valve unless the weight is secured on the lever in the correct position.

(3) No person shall enter or be in any steam boiler, which is one of a range of two or more steam boilers unless

- (a) all inlets through which steam or hot water might otherwise enter the boiler from any other part of the range are disconnected from that part; or
- (b) all valves or taps controlling such entry are closed and securely locked, and, where the boiler has a blow-off pipe in common with one or more other boilers or delivering into a common blow-off vessel or sump, the blow-off valve or tap on each such boiler is so constructed that it can only be opened by a key which cannot be removed until the valve or tap is closed and is the only key in use for that set of blow-off valves or taps.

(4) Every part of every steam boiler shall be of good construction, sound material, adequate strength, and free from patent defect.

(5) Every steam boiler and all its fittings and attachments shall be properly maintained.

(6) Every steam boiler and all its fittings and attachments shall be thoroughly examined by a competent person at least once in every period of twelve months, and also after any extensive repairs:

(7) An examination in accordance with the requirements of the last foregoing subsection shall consist, in the first place, of an examination of the boiler when it is cold and the interior and exterior have been prepared in the prescribed manner, and secondly, except in the case of an economiser or superheater, of an examination when it is under normal steam pressure, and the two parts of the examination may be carried out by different persons; the examination under steam pressure shall be made on the first occasion when steam is raised after the examination of the boiler when cold, or as soon as possible thereafter, and the person making the examination shall see that the safety valve is so adjusted as to prevent the boiler being worked at a pressure greater than the maximum permissible working pressure.

(8) A report of the result of every such examination in the prescribed form and containing the prescribed particulars (including the maximum permissible

working pressure) shall, as soon as practicable and in any case within twenty-eight days of the completion of the examination, be entered in or attached to the general register, and the report shall be signed by the person making the examination, and if that person is an inspector of a boiler-inspecting company or association, counter-signed by the chief engineer of the company or association or by such other responsible officer of the company or association as may be authorised in writing in that behalf by the chief engineer.

For the purposes of this subsection and the succeeding provisions of this section relating to reports of examinations, the examination of a boiler when it is cold and its examination when it is under steam pressure shall be treated as separate examinations.

(9) No steam boiler which has previously been used shall be taken into use in any factory for the first time in that factory until it has been examined and reported on in accordance with the last three foregoing subsections; and no new steam boiler shall be taken into use unless there has been obtained from the manufacturer of the boiler, or from the boiler-inspecting company or association, a certificate specifying the maximum permissible working pressure thereof, and stating the nature of the tests to which the boiler and fittings have been submitted, and the certificate is kept available for inspection and the boiler is so marked as to enable it to be identified as the boiler to which the certificate relates.

(10) A copy of any report or certificate required under the provisions of subsection (9) of this section to be made or issued, shall be sent to the Authority within fourteen days of the making or issue thereof.

(11) Where the report of any examination under this section specifies conditions for securing the safe working of a steam boiler, the boiler shall not be used except in accordance with those conditions.

(12) The person making the report of any examination under this section, or, in the case of a boiler-inspecting company or association, the chief engineer thereof, shall within twenty-eight days of the completion of the examination send to the Authority a copy of the report in every case where the maximum permissible working pressure is reduced, or the examination shows that the boiler cannot continue to be used with safety unless certain repairs are carried out immediately or within a specified time.

(13) If the person employed to make any such examination fails to make a thorough examination as required by this section or makes a report which is false or deficient in any material particular, or if the chief engineer of any boiler-inspecting company or association permits any such report to be made, he shall be guilty of an offence and liable to a fine not exceeding fifty pounds, and if any such person or chief engineer fails to send to the Authority a copy of any report as required by the preceding subsection, he shall be guilty of an offence.

(14) If the Authority is not satisfied as to the competency of the person employed to make the examination or as to the thoroughness of the examination, it may require the boiler to be re-examined by a person nominated by it, and the occupier shall give the necessary facilities for such re-examination. If as a result of such re-examination it appears that the report of the examination was inadequate or inaccurate in any material particular, the cost of the re-examination shall be recoverable from the occupier as a civil debt, and the report of the re-examination purporting to be signed by the person making it shall be admissible in evidence of the facts stated therein.

(15) The owner of every steam boiler to which this section applies shall maintain in force a policy of insurance which shall be issued by an insurer who is an insurer approved by the Authority, which policy shall, subject to the exceptions and conditions thereof, indemnify the said owner against liability, in respect of fatal or non-fatal injuries sustained by any person who is under a contract of service or apprenticeship with the said owner, arising as the direct consequence of and solely due to the explosion or collapse of the boiler.

(16) For the purposes of the last preceding sub-section of this section, a contract of service or apprenticeship shall not be deemed not to exist by reason only that the wages payable under such contract of service or apprenticeship are, by agreement between the owner of a steam boiler and a third party, paid or payable by that third party.

(17) The owner of a steam boiler who uses, or causes or permits to be used, any steam boiler owned by him and as regards which the insurance policy referred to in this section is not in force shall be guilty of an offence.

(18) Subject as hereinafter in this section provided, the provisions of this

Ordinance hereinafter in this subsection mentioned shall apply to steam boilers, that is to say:

(a) Part IV;

(b) Part V; the provisions of Part VI with respect to duties of persons employed, general registers (so far as applicable), powers and duties of inspectors, interpretation of expression "factory" and general interpretation.

(19) The provisions of this Ordinance in their application to steam boilers shall have effect as if the place where any such steam boiler is used were a factory and the owner of any such steam boiler to which this Ordinance applies were the occupier of a factory:

PROVIDED that such of the provisions of this Ordinance as require general registers to be kept shall be deemed to be complied with as respects a steam boiler if the general register is kept at an office of the owner of the steam boiler.

(20) This section shall apply to every steam boiler, whether stationary or mobile, used at any place in the Island of Guernsey in connection with any trade, industry or calling but shall not include any boiler on board a steamship having a valid certificate from the Ministry of Transport:

(21) In this Part of this Ordinance, the expression "maximum permissible working pressure" means, in the case of a new steam boiler, that specified in the certificate referred to in subsection (9) of this section, and in the case of a steam boiler which has been examined in accordance with the provisions of this section, that specified in the report of the last examination; and the expression "steam boiler" means any closed vessel in which for any purpose steam is generated under pressure greater than five pounds avoirdupois to the square inch, and includes any economiser used to heat water being fed to any such vessel, and any superheater used for heating steam.

(22) For the purposes of this section the expression "owner" in relation to a steam boiler includes a hirer of a steam boiler under a hire purchase agreement.

16. (1) Every steam receiver, not so constructed and maintained as to withstand with safety the maximum permissible working pressure of the boiler or the maximum pressure which can be obtained in the pipe connecting the receiver with any other source of supply, shall be fitted with:

- (a) a suitable reducing valve or other suitable automatic appliance to prevent the safe working pressure being exceeded; and
- (b) a suitable safety valve so adjusted as to permit the steam to escape as soon as the safe working pressure is exceeded, or a suitable appliance for cutting off automatically the supply of steam as soon as the safe working pressure is exceeded; and
- (c) a correct steam pressure gauge, which must indicate the pressure of steam in the receiver in pounds per square inch; and
- (d) a suitable stop valve; and

(e) except where only one steam receiver is in use, a plate bearing a distinctive number, which shall be easily visible. The safety valve and pressure gauge shall be fitted either on the steam receiver or on the supply pipe between the receiver and the reducing valve or other appliance to prevent the safe working pressure being exceeded.

(2) For the purpose of the provisions of the foregoing subsection, except paragraph (e), any set of receivers supplied with steam through a single pipe and forming part of a single machine may be treated as one receiver, and for the purposes of the said provisions, except paragraphs (d) and (e) any other set of receivers supplied with steam through a single pipe may be treated as one receiver:

PROVIDED that this subsection shall not apply to any such set of receivers unless the reducing valve or other appliance to prevent the safe working pressure being exceeded is fitted on the said single pipe.

(3) Every part of every steam receiver shall be of good construction, sound material, adequate strength and free from patent defect.

(4) Every steam receiver and its fittings shall be properly maintained, and shall be thoroughly examined by a competent person, so far as the construction of the receiver permits, at least once in every period of twenty-six months.

(5) A report of the result of every such examination containing the prescribed particulars (including particulars of the safe working pressure) shall be entered in or attached to the general register.

(6) Every steam container shall be so maintained as to secure that the outlet is at all times kept open and free from obstruction.

(7) In this section the following expressions have the meanings hereby respectively assigned to them, that is to say

"safe working pressure" means, in the case of a new steam receiver, that specified by the maker, and in the case of a steam receiver which has been examined in accordance with the provisions of this section that specified in the report of the last examination;

"steam receiver" means any vessel or apparatus (other than a steam boiler, steam container, a steam pipe or coil, or a part of a prime mover) used for containing steam under pressure greater than atmospheric pressure;

"steam container" means any vessel (other than a steam pipe or coil) constructed with a permanent outlet into the atmosphere or into a space where the pressure does not exceed atmospheric pressure, and through which steam is passed at atmospheric pressure for the purpose of heating, boiling, drying, evaporating or other similar purposes.

17. (1) Every air receiver shall

- (a) have marked upon it so as to be plainly visible the safe working pressure; and
- (b) in the case of a receiver connected with an air compressing plant either be so constructed as to withstand with safety the maximum pressure which can be obtained in the compressor, or be fitted with a suitable reducing valve or other suitable appliance to prevent the safe working pressure of the receiver being exceeded; and
- (c) be fitted with a suitable safety valve so adjusted as to permit the air to escape as soon as the safe working pressure is exceeded; and
- (d) be fitted with a correct pressure gauge indicating the pressure in the receiver in pounds per square inch; and
- (e) be fitted with a suitable appliance for draining the receiver; and
- (f) be provided with a suitable manhole, hand-hole, or other means which will allow the interior to be thoroughly cleaned; and
- (g) in a case where more than one receiver is in use in the factory, bear a distinguishing mark, which shall be easily visible.

(2) For the purpose of the provisions of the foregoing subsection relating to safety valves and pressure gauges, any set of air receivers supplied with air through a single pipe may be treated as one receiver:

PROVIDED that, in a case where a suitable reducing valve or other suitable appliance to prevent the safe working pressure being exceeded is required to be fitted, this subsection shall not apply unless the valve or appliance is fitted on the said single pipe.

(3) Every air receiver and its fittings shall be of sound construction and properly maintained.

(4) Every air receiver shall be thoroughly cleaned and examined at least once in every period of twenty-six months:

PROVIDED that in the case of a receiver of solid drawn construction

- (a) the person making any such examination may specify in writing a period exceeding twenty-six months but not exceeding four years within which the next examination is to be made; and
- (b) if it is so constructed that the internal surface cannot be thoroughly examined, a suitable hydraulic test of the receiver shall be carried out in lieu of internal examination.

Every such examination and test shall be carried out by a competent person, and a report of the result of every such examination and test, containing the prescribed particulars (including particulars of the safe working pressure), shall be entered in or attached to the general register.

(5) In this section the expression "air receiver" means

- (a) any vessel (other than a pipe or coil, or an accessory, fitting or part of a compressor) for containing compressed air and connected with an air compressing plant;
- (b) any fixed vessel for containing compressed air or compressed exhaust gases and used for the purpose of starting an internal combustion engine; or

- (c) any fixed or portable vessel (not being part of a spraying pistol) used for the purpose of spraying by means of compressed air any paint, varnish, lacquer or similar material; or
- (d) any vessel in which oil is stored and from which it is forced by compressed air:

PROVIDED that the provisions of paragraph (e) of subsection (1) of this section shall not apply to any such vessel as is mentioned in paragraph (c) or paragraph (d) of this subsection.

ACOP

The systems coming under this heading include those containing steam, pressurised hot water, compressed air, inert gas and fluorocarbon refrigerants.

1. The 1952 law requires that every air receiver shall:
 - 1.1 have the safe working pressure (SWP) clearly marked on the outer casing of the vessel;
 - 1.2 be fitted with a suitable safety valve to ensure that air can escape if the pressure exceeds the SWP;
 - 1.3 be fitted with a correct pressure gauge indicating the pressure in the air receiver. The SWP should be clearly marked by a coloured line on the gauge;
 - 1.4 be provided with a suitable hand-hole or similar device, which can be removed so that the interior can be thoroughly cleaned and inspected.
2. The air receiver and its fittings and apparatus have to be:
 - 2.1 of sound construction and properly maintained, and
 - 2.2 inspected and cleaned at least once every twenty-six months. However, the competent person undertaking the examination may extend the period before the next examination by up to four years providing this condition is specified in writing. The Board may exempt particular pressure vessels from this requirement at its discretion;
 - 2.3 It should be emphasised that where air receivers are connected to pressure systems the competent person should decide which ancillary parts should be involved in the examination. The entire system requires examination not, just one item.
3. The air receiver can be examined by the use of a suitable hydraulic test if as a result of its construction the inner surfaces cannot be inspected by other means.
4. The competent person undertaking the examination and testing of the pressure vessel and its apparatus is required to put the findings of the examination and tests into a written report. The owner of the pressure vessel should make a positive response to the recommendations in the report, and file the documentation.
5. Whilst the 1952 Ordinance specifies examinations at least once every twenty-six months, modern health & safety management emphasises that the frequency of inspection is a responsibility of the plant owner and the user of the system.

The assumption is that the user of the system has the best knowledge of the condition of the system taking into account the nature and manner of its use. The user, in consultation with and with the agreement of a competent person, should therefore determine the extent and frequency of examination within the terms of the law.

6. The Pressure Systems and Transportable Gas Containers Regulations 1989 rationalised and revoked a great deal of existing UK legislation. Two ACOP's have been created by the Health and Safety Executive and further details can be found at the end of this Safety Standard.
7. Those who own and operate pressure vessels and associated apparatus would be well advised to introduce a Written Scheme into their management systems. The Written Scheme was introduced under the Pressure Systems Regulations 1989 and its principal features and requirements are:-
 - 7.1 to list those parts of the system which should be periodically examined by a competent person. The parts may include: all protective devices, every pressure vessel and every pipeline in which a defect may give rise to danger, and those parts of the pipework in which a defect may give rise to danger;
 - 7.2 to clearly define the extent and items of plant included in every pressure system;
 - 7.3 to be regularly reviewed by the competent person to ensure their continued suitability. They should be suitable for the safe operation of the system concerned and must specify the nature and frequency of examination and any measure necessary to prepare the system for safe examination, as well as providing, where appropriate, for examination before a system is first used;
 - 7.4 to ensure that certain types of repairs and modifications are examined by the competent person carrying out examinations before the system is taken back into use.

Other sources of information.

PM29	Electrical hazards from steam / water pressure cleaners	1995	ISBN 0 07176 0813 1
PM60	Steam boiler blowdown systems	1987	ISBN 0 11 883949 7
HS(G)37	Introduction to local exhaust ventilation	1993	ISBN 0 11 882134 2
HS(G)39	Compressed air safety	1990	ISBN 0 11 885582 4
HS(G)93	The assessment of pressure vessels operating at low temperature	1993	ISBN 0 11 882092 3
HS(R)30	A guide to the Pressure Systems and Transportable Gas Containers Regulations 1989	1990	ISBN 0 11 885516 6

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 18

PROTECTION OF VISITORS AND THE PUBLIC

PART I

Section 2(1), (2)
and (3)

1987 Ordinance

2. (1) It shall be the duty of every employer to conduct his undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in his employment who may be affected thereby are not thereby exposed to risks to their health or safety.

(2) It shall be the duty of every self-employed person to conduct his undertaking in such a way as to ensure, so far as is reasonably practicable, that he and other persons (not being his employees) who may be affected thereby are not thereby exposed to risks to their health or safety.

(3) In such cases as may be prescribed, it shall be the duty of every employer and every self-employed person, in the prescribed circumstances and in the prescribed manner, to give to persons (not being his employees) who may be affected by the way in which he conducts his undertaking the prescribed information about such aspects of the way in which he conducts his undertaking as might affect their health or safety.

ACOP

1. Every employer and self-employed person is required in law to conduct his undertaking and work in such a manner as to ensure, as far as reasonably practicable, that no other person is put at risk by them on the premises, site or on publicly or privately owned land.

2. This general duty of care applies equally to persons coming onto site or those passing the site.

VISITORS TO SITE

3. In general terms, all visitors to site should be accompanied throughout their visit and not taken into more hazardous areas.

4. Site visitors should be required to conform to all site safety management initiatives. For instance, hard hats and ear protection should be worn in designated zones.

5. For the purposes of this Safety Standard, the emergency services should be considered as potential visitors to site; on larger sites, management should ensure that access points to site are notified to the Ambulance and Fire services.

6. The site management has some responsibility towards unwanted visitors... trespassers. Essentially, management should take all reasonable precautions to prevent entry onto site, and exhibit warning signs. In addition, adequate steps must be taken to ensure that there are no hidden, concealed or unexpected dangers on site. If active site safety management is in place, this requirement should cause no additional management problems.

PROTECTION OF THE PUBLIC

7. The public and their property must be protected from objects, debris, equipment, anything that may fall into private property, or onto pavements or the road.

8. When assessing the risk to the public, consideration should be given to the potential effects of strong winds, especially overnight and at weekends when the site is closed,

9. The public should be protected in many instances by erecting sound fencing or hoardings, and ensuring that these are clearly visible and lit.

10. It should be recognised that the Principal Contractor will be responsible for certain road works conducted in relation to his site works. It is therefore essential that he considers the safety of footpath and road users. Cones and signs will need to be correctly positioned, and the roadwork defences adequately lit during the hours of darkness.

11. When footpath and road works require alterations to public movement and traffic flow, the contractor must make contact with the Traffic Committee and the parish officials before the work commences.

Other sources of information

There are many other references within other Safety Standards to the general duty of care of employers towards the public. For ease of cross-reference, some of these are listed below.

Safety Standard No. 5	Demolition	Paragraph 2
Safety Standard No. 7	Excavations	Paragraph 4
Safety Standard No. 20	Scaffolding	Paragraph 3.5; 3.6; 6
Safety Standard No. 19	Roofwork	Paragraph 6; 7; 12
Safety Standard No. 10	Flammable materials	Paragraph 5
Safety Standard No. 12	Hazardous Substances	Paragraph 15.3

These are available through the HMSO.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

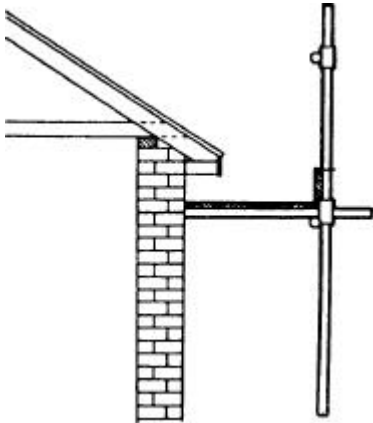
SAFETY STANDARD No. 19 - ROOFWORK

PART III
Sections 44/45 –
1952 Safety of
Employes

44. Every accessible opening in a roof or in the floor of a building, working platform, gangway, or run, through which any person is liable to fall a distance of more than 6 feet 6 inches, shall be provided with

- (a) a suitable guard-rail or guard-rails of adequate strength to a height of at least 3 feet above the edge of such opening, together with toe-boards up to a sufficient height, being in no case less than 8 inches, and so placed as to prevent so far as possible the fall of persons, materials and tools through the opening; or
- (b) a covering so constructed as to prevent the fall of persons, materials and tools through the opening:

PROVIDED that in the case of an opening of a pit in the floor of a factory which is not ordinarily fenced, the requirements of this section shall not apply by reason only that repair or maintenance work to which this Part of this Ordinance applies is being done by persons normally engaged on such repair or maintenance work in the factory.



45. (1) Where work is done on the sloping surface of a roof and, taking into account the pitch, the nature of the surface, and the state of the weather, a person employed is likely to slip down or off the roof, then unless he has adequate handhold or foothold or is not liable to fall a distance of more than 6 feet 6 inches from the edge of the roof, suitable precautions shall be taken to prevent his so falling.

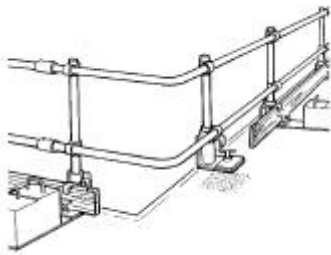
(2) Extensive work on the sloping surface of any roof which has a pitch of over 34 degrees and from or down any part of which a person is liable to fall a vertical distance of more than 6 feet 6 inches, shall be done only by workmen who are suitable for such work, and when such work is done

- (a) there shall be provided sufficient and suitable crawling ladders or crawling boards which shall be secured as soon as practicable; and
- (b) there shall be provided where practicable a suitable working platform, securely supported, and not less than 17 inches wide; and
- (c) when a person is employed on a roof where he is liable to slip down the slope and fall off the edge of the roof covering to a distance of more than 6 feet 6 inches, there shall be a parapet wall or railings of adequate strength or other protective arrangements to prevent him from so falling.

(3) Where work is being done on or near roofs or ceilings covered with fragile materials through which a person is liable to fall a distance of more than 10 feet and where workmen have to pass over or work above such fragile materials, suitable and sufficient ladders, duck ladders or crawling boards, which shall be securely supported, shall be provided and used.

(4) Where persons are employed in a position below the edge of a sloping roof and where they are in a position of being endangered by work done on the roof, suitable precautions shall be taken to prevent tools or materials falling from such roofs or from the edge thereof so as to endanger such persons employed.

ACOP



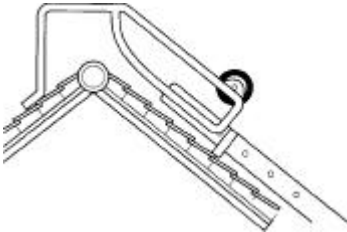
1. Falls from height are the single greatest cause of death or serious injury in the construction industry. In relation to roof work, such accidents can be subdivided into three categories:
 1. falls through a roof or roof opening;
 2. falls from the edge of roofs;
 3. falls from scaffold or from ladders giving access to roofs.
2. Because roof work is a potential high risk activity, workers should be competent, under training or properly supervised.
3. The law is quite clear on edge protection. Where there is the potential for a fall in excess of two metres, edge protection must be provided. Such protection may take many forms but the barrier must be of sound construction and rigidly fixed in place. The recommended height for a guard rail is between 1.3 and 1.5 metres.
4. In addition, there may be work activities at height that require an employee to wear a harness and attach it to a strong point so as to ensure that he does not fall.
5. Protection against falling must also be provided by a rigid barrier of appropriate height where a window or door void presents the risk of a fall.
6. Where work activities on a roof present the risk of materials, plant or tools falling to a lower level, adequate means of preventing such a fall must be installed. This may take the form of:
 - a. toe boards;
 - b. fan protection
 - c. one or other form of brick or debris netting.
7. Good housekeeping standards should be maintained. Thus materials will be properly stored so that they cannot fall from the roof and debris should be periodically bagged and taken by hand, gin wheel, hoist or chute to ground level.
8. Where the pitch of the roof exceeds 34 degrees, crawling ladders or boards must be provided and tied into position.
9. Whilst head protection may not be a primary concern for those working on roofs, employees working below roofers are at particular risk and employers will wish to make appropriate management decisions to protect such persons.
10. Where scaffolds that have been erected to provide access or edge protection require alteration, those alterations should only be made by the scaffold company acting on instructions from the contractor who ordered the scaffold.
11. Roofers use ladders every day of their working life. Ladders should be regularly inspected and destroyed if their strength is in doubt. They should not be home made or painted. Ladders should be tied by both styles.

12. Roof work and materials stored on roofs are likely to be exposed to the effects of strong winds. An eye on the weather forecast may prevent damage to property or personnel caused by flying materials.

WORKING WITH HOT BITUMEN

This activity presents managers with special risks and these can be addressed by the following sequence of action:-

1. Identify the competent person in charge of the work.
2. Suitable clothing. Soft soled shoes, close fitted clothing, protective gloves and goggles.
3. The boiler. The competent person in charge of the work should be able to:
 - a) set up the boiler;
 - b) correctly use the boiler;
 - c) correctly shut down the boiler;
 - d) deal with on site emergencies.
4. Fire risk. The competent person should ensure that suitable fire extinguishers are available for immediate emergency use and instigate thorough flame source inspections at the end of the working day.
5. Co-operation. There is a need to ensure that the use of hot bitumen does not endanger other workers on site, nor burn the skin of those working with the substance.



Other sources of information

HS(G)23	Safety at power operated mast work platforms	ISBN 0 717 610055
HS(G)33	Safety in roof work	
CS6	The storage and use of LPG on construction sites	ISBN 0 11 883391

Section 10

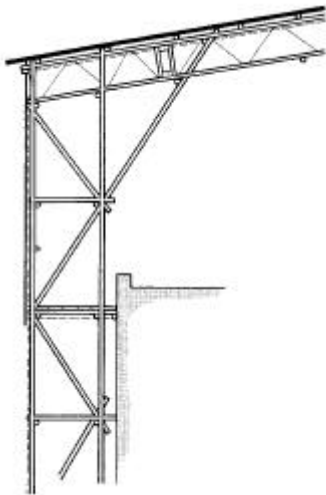
STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 20 - SCAFFOLDING

PART III

Sections 28 – 42
46 and 47

1952 Safety of
Employees



28. Suitable and sufficient scaffolds shall be provided for all work that cannot safely be done on or from the ground or from part of the building, or from part of a permanent structure or from a ladder or other available means of support, and sufficient safe means of access shall so far as is reasonably practicable be provided to every place at which any person has at any time to work.

29. No scaffold shall be erected or be substantially added to or altered or be dismantled except under the immediate supervision of a competent person and so far as possible by competent workmen possessing adequate experience of such work. All material for any scaffold shall be inspected by a competent person on each occasion before being taken into use.

30. (1) Every scaffold and every part thereof shall be of good construction, of suitable and sound material and of adequate strength for the purpose for which it is used.

(2) Sufficient material shall be provided for and shall be used in the construction of scaffolds.

(3) Timber used for scaffolds shall be of suitable quality, be in good condition, have the bark completely stripped off, and not be painted or treated in any way so that defects cannot easily be seen.

(4) Metal parts used for scaffolds shall be of suitable quality and be in good condition and free from corrosion or other patent defect likely to affect their strength materially.

31. (1) No defective material or part which cannot be satisfactorily repaired shall be used for a scaffold. Defective parts or materials which can be satisfactorily repaired shall not be used until they are so repaired.

(2) No rope which is defective whether through contact with an acid or other corrosive substance or otherwise shall be used.

(3) All material and parts for scaffolds shall when not in use be kept under good conditions and apart from any materials or parts unsuitable for scaffolds.

32. (1) All scaffolds shall be properly maintained, and every part shall be kept so fixed, secured or placed in position as to prevent so far as is practicable accidental displacement.

(2) No scaffold or part of a scaffold shall be partly dismantled and remain in such a condition that it is capable of being used unless either:

- (a) the scaffold continues to comply and would, if used, comply with the provisions of this Part of this Ordinance, or
- (b) if the scaffold or part thereof would, if used, not comply with the provisions of this Part of this Ordinance, a prominent warning notice indicating that the scaffold or part thereof is not to be used is affixed near any point at which the scaffold or part, as the case may be, is liable to be approached for the purpose of use.

33. (1) Standards or uprights of scaffolds shall be:

- (a) where practicable vertical or slightly inclined towards the building; and
- (b) fixed sufficiently close together to secure the stability of the scaffold having regard to all the circumstances.

(2) The displacement of the foot of any standard or upright shall, unless prevented in some other sufficient way, be prevented either:

- (a) by sinking the standard or upright a sufficient distance into the ground; or
- (b) by placing the standard or upright on an adequate base plate in a manner to prevent slipping.

(3) Ledgers shall be as nearly as possible horizontal and shall be securely fastened to the uprights or other means of support or suspension by bolts, dogs, ropes or other efficient means.

(4) Where two ledgers are connected together the connection shall be secure and in the case of timber ledgers not connected together at an upright or point of suspension both ledgers shall be connected to a separate splicing ledger of adequate strength spanning between and properly secured to the uprights or points of suspension on opposite sides of the connection of the ledgers.

(5) Putlogs shall be straight or approximately straight and shall be securely fastened to the ledgers or the standards or uprights, except in the case of a timber putlog so shaped and placed that fastening is not necessary to prevent its displacement. Putlogs which have one end supported by a wall shall have at that end a flat supporting surface of a sufficient area. Nails shall not be used for fastening putlogs.

(6) The distance between two consecutive put-logs or other supports on which a platform rests shall be fixed with due regard to the anticipated load and the nature of the platform flooring. As a general rule the distance with single planking shall not exceed 3 feet 3 inches with planks 1 1/4 inches in thickness, 5 feet with planks 1 1/2 inches in thickness, or 8 feet 6 inches with planks 2 inches in thickness.

34. (1) Ladders serving as uprights of scaffolds shall:

- (a) be of adequate strength; and
- (b) (i) be sunk into the ground to such a depth as to secure stability, or be placed on sole plates or boards so that the two uprights of each ladder rest evenly on the base; and
- (ii) be secured to prevent slipping.

(2) Ladder scaffolds shall not be used unless the work is of such a light nature and the material required for the work is such that this type of scaffold can be used with safety.

35. (1) Every scaffold shall be securely supported or suspended and shall where necessary be sufficiently and properly strutted or braced to ensure stability and, unless it is properly designed and constructed as an independent scaffold, shall be rigidly connected with the building.

(2) All structures and appliances used as supports for scaffolds, working platforms, gangways or runs shall be of sound construction, have a firm footing or be firmly supported, and shall where necessary be sufficiently and properly strutted or braced to ensure stability.

(3) Any traveling scaffold or scaffold which can be moved on wheels or skids shall, unless it is a suspended or slung scaffold, be

- (a) constructed with due regard to stability, and, if necessary for stability, adequately weighted at the base;
- (b) used only on a firm and even surface, not so sloping as to involve risk of instability of the scaffold or any load thereon;
- (c) adequately secured to prevent movement when any person is working upon it;
- (d) moved only by the application of force at or near the base.

(4) Loose bricks, drain pipes, chimney pots or other unsuitable material shall not be used for the construction or support of scaffolds save that bricks or small blocks may, if they provide a firm support, be used to support a platform not more than two feet above the ground or floor.

36. No part of a building shall be used as support for part of a scaffold unless it is of sound material and sufficiently stable and of sufficient strength to afford safe support. Overhanging eaves gutters shall not be used as such supports unless they have been specially designed as walkways and are of adequate strength.

37. No trestle scaffold shall be used:
- (a) if constructed with more than three tiers; or
 - (b) if it has a working platform more than 15 feet above the ground or floor or other surface upon which the scaffold is erected.
38. No scaffold shall be used unless
- (a) it has been inspected by a competent person within the immediately preceding seven days; and
 - (b) it has been inspected by a competent person since exposure to weather conditions likely to have affected its strength or stability or to have displaced any part.
39. Where a scaffold or part of a scaffold is to be used by or on behalf of an employer other than the employer for whose workmen it was first erected, the first-mentioned employer shall, before such use, and without prejudice to any other obligations imposed upon him by the provisions of this Part of this Ordinance, take express steps, either personally or by a competent agent, to satisfy himself that the scaffold or part thereof is stable, that the materials used in its construction are sound and that the safeguards required by the provisions of this Part of this Ordinance are in position.
40. Every working platform from which a person is liable to fall more than 6 feet 6 inches shall be:
- (a) closely boarded, planked or plated;
 - (b) at least 25 inches wide if the platform is used as a footing only and not for the deposit of any material; or
 - (c) at least 34 inches wide if the platform is used for the deposit of material.
41. (1) Every board or plank forming part of a working platform or used as a toe-board shall be:
- (a) of a thickness which is such as to afford adequate security having regard to the distance between the putlogs or standards; and
 - (b) not less than 8 inches wide or in the case of boards or planks exceeding 2 inches in thickness, not less than 6 inches wide.
- (2) No board or plank which forms part of a working platform, gangway or run shall project beyond its end support to a distance exceeding four times the thickness of the board or plank unless it is effectively secured to prevent tipping, or to a distance which, having regard to the thickness and strength of the plank renders the projecting part of the plank an unsafe support for any weight liable to be upon it.
- (3) Suitable measures such as the provision of adequate bevelled pieces shall be taken to reduce to a minimum the risk of tripping and to facilitate the movement of barrows where boards or planks which form part of a working platform, gangway or run overlap each other or are not of reasonably uniform thickness where they meet each other or owing to warping or for some other reason do not provide an even surface.
- (4) Every board or plank which forms part of a working platform shall:
- (a) rest securely and evenly on its supports; and
 - (b) rest on at least three supports unless, taking into account the distance between the supports and the thickness of the board or plank, the conditions are such as to prevent undue sagging.
- (5) Where work has to be done at the end of a wall the working platform at such wall shall, wherever practicable, extend at least 24 inches beyond the end of the wall.
42. (1) Every platform, gangway, run or stair shall be kept free from any unnecessary obstruction, material or rubbish and from any projecting nails.
- (2) If a platform, gangway, run or stair becomes slippery appropriate steps shall as soon as reasonably practicable be taken by way of sanding, cleaning or otherwise to remedy the defect.

46. Scaffolds shall not be overloaded and materials shall not be kept upon them unless needed for work within a reasonable time.

47. When any material is transferred on or to a scaffold it shall be moved or deposited without imposing any violent shock.

1967 Public Highways

1. A person shall not, without the permission of the Commerce & Employment Department (hereinafter referred to as "the Authority"):

- (a) erect or re-erect or place any immovable structure; or
- (b) fix, suspend or place any overhead beam, rail, pipe, cable, wire or any other object whatsoever:

over and across or over and along any public highway or any part of any such highway.

2. (1) Any person desirous of obtaining permission to do anything referred to in the last preceding section shall make application in that behalf to the Authority and such application shall be in such form and accompanied by such information, including specifications, plans and elevations, as the Authority may, from time to time, require.

(2) Upon receipt of an application under the provisions of the last preceding subsection, or at any time thereafter, the Authority may require an applicant to supply such further information, including further specifications, plans and elevations, as the Authority may consider desirable.

3. (1) Upon receipt of an application under the provisions of the last preceding section the Authority may either

- (a) grant the permission applied for;
- (b) refuse such permission;
- (c) grant such permission subject to such conditions as the Authority may think it necessary or expedient to impose.

(2) The Authority may, from time to time, revoke or vary any condition attached to any permission granted in pursuance of the provisions of the last preceding subsection.

(3) Any permission granted in pursuance of the provisions of this section shall remain valid for one year from the date on which it was granted.

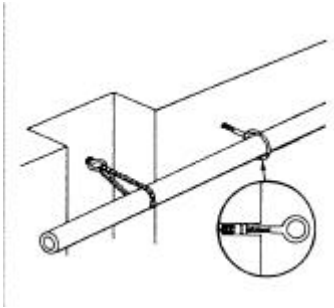
ACOP

The guidance associated with the safe use of scaffolds will be found under these headings:

- 1. Notification and permission;
- 2. Ordering the scaffold;
- 3. Scaffold integrity;
- 4. Handing Over Certificate;
- 5. Inspection;
- 6. Consideration for third parties;
- 7. General considerations;
- 8. Other scaffolds and working platforms.

There are many types of scaffold of which the most common is the general access or low level independent tied scaffold. This guidance refers especially to this type of structure but there is reference in paragraph 6 to other scaffold types and working platforms.

The Public Highways Ordinance, 1967, requires that permission is obtained from the Health and Safety Executive before a scaffold is erected on a road or footpath. A copy of this form is shown at the end of this Section.



ACOP

1. NOTIFICATION AND PERMISSION

- 1.1 The Public Highway Ordinance, 1967, requires that the Health and Safety Executive are notified of the intention to erect a scaffold. This notification should be provided to the Executive in sufficient time for the application to be considered and permission to be granted;
- 1.2 A separate application is needed to gain permission of the relevant parish constables to erect any scaffold on a public highway. Note that permits will not be issued for the erection of scaffolds in the town area between 15th May and 15th September unless they are for emergency repairs. This permit is valid for twelve months from the date of issue. If the work authorised by this permit is not commenced within twelve months, then re-application is necessary. The permit is issued without prejudice to the rights and privileges of third parties.

2. ORDERING THE SCAFFOLD

- 2.1 To maximise safety and efficiency, it is necessary to ensure that precise instructions are given to the scaffold companies at the tender price stage;
- 2.2 The design of the scaffold depends on a number of factors and one of these is the use to which the scaffold will be put;
- 2.3 The contractor will normally expect to meet a representative of the scaffold company on site before work starts on the erection of the scaffold structure so that problems can be resolved in the safest and most cost effective way.

3. SCAFFOLD INTEGRITY

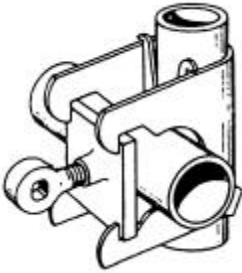


- 3.1 Complete protection has to be offered to the public both whilst the scaffold is being erected or dismantled, and once it has been taken into use. Further guidance is provided in Section 6 following:
- 3.2 The scaffold must be constructed from a sound base. Sole plates will frequently be used to spread the load between standards.
- 3.3 The toe boards shall be fitted, including on returns, and on some scaffolds inner toe boards may be necessary.
- 3.4 There must be adequate numbers of positive ties such as through ties or drilled anchorages. Reveal ties should not exceed 50% of the total number of ties.
- 3.5 Where the standards of a scaffold have their foundations on a public road or pavement, the law requires that the poles are painted white (or bound with reflective tape) and are lit.
- 3.6 If the scaffold standards extend into the road, notices must be positioned to warn motorists of the impending hazard.
- 3.7 No material, tools or plant must be thrown from the scaffold during its erection, striking or the contract work. Measures must be taken to prevent accidental fall of any load from a lifting appliance.

4. HANDING OVER CERTIFICATE

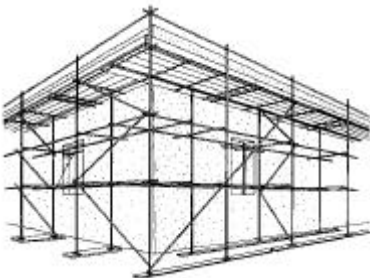
- 4.1 It is good management practice to require the scaffold company to provide a Handing Over Certificate as soon as the erection has been completed and before the scaffold is put to use;
- 4.2 The certificate will state that the scaffold has been designed and built to the required specification and to BS 5973.
- 4.3 On some sites, the scaffold is built in sections or stages. It is strongly recommended that the contractor requires a Handing Over Certificate for the completion of each section, constructed to British Standard 5973;
- 4.4 Unfinished sections of scaffold should be clearly identified with notices stating, "Scaffold incomplete. Do not use" ... or similar wording;
- 4.5 Handing Over Certificates should be filed.

5. INSPECTION



- 5.1 The 1952 Ordinance states clearly that scaffolds must be regularly inspected. The law states that scaffolds must be inspected:
 - 5.1.1 before the scaffold is first brought into use;
 - 5.1.2 at least once in every period of seven days;
 - 5.1.3 after severe adverse weather conditions, and this refers particularly to strong winds;
 - 5.1.4 Scaffolds should also be inspected following a collision.
- 5.2 These inspections should be conducted by a person competent to undertake the inspections. This implies a degree of training and further guidance is given in Part IV, Section 11;
- 5.3 The purpose of the inspection is to identify faults that may jeopardise the safety of those working on the scaffold, or members of the public. Thus if the competent person undertaking the inspection identifies deficiencies he should immediately notify the scaffold company and require the alterations/improvements to be made. In the more severe cases, work on those sections of scaffold should be delayed until the repairs have been made;
- 5.4 The competent person undertaking the scaffold inspection should sign and date the General Register, and record any action that was taken;
- 5.5 It should be considered good management to inspect the scaffold more frequently during the fitting out and decorating stage when there is the temptation to alter the scaffold to ease the fitting of window frames, plaster the external wall, or apply external coats of paint.

6. CONSIDERATION FOR THIRD PARTIES

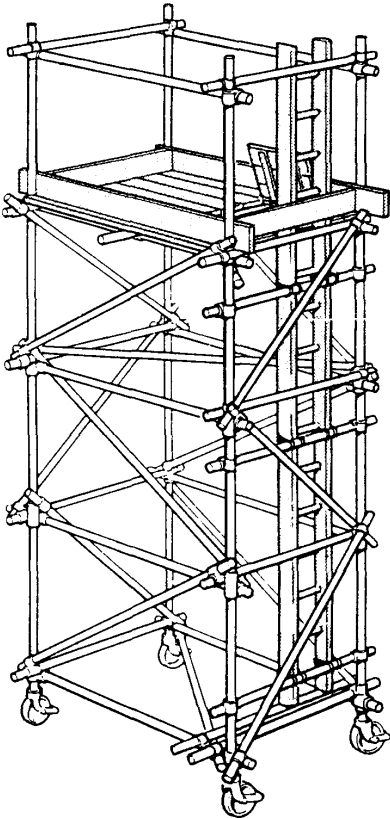


- 6.1 The Principal Contractor is required by law to consider the safety of the employees of sub-contractors and others who may be affected by his operations, including the general public;
- 6.2 When ordering the scaffold and establishing specification details, management should consider the need for one or other of the following;
 - 6.2.1 Debris netting or brick guarding (partial or complete);
 - 6.2.2 Double height toe boards, even inner toe boards;
 - 6.2.3 Provision of a fan vault;
 - 6.2.4 Additional boarding or plastic sheeting on top of the standard boards forming a working platform;

- 6.3 The precautions outlined in Section 7.3 are designed to prevent building materials, tools, paint and portable plant falling from or through the working platform;
- 6.4 Management should consider making special provisions when planning a scaffold in a built up area or a frequently used retail outlet. Such provisions should prevent damage to clothing and property as well as injury to a human being;
- 6.5 Management should consider the advantages of boxing in the lower eight feet of the standards to prevent the public moving under the working platforms, and in some cases full cordoning off and closing of car parks may have to be considered.

7. GENERAL CONSIDERATIONS

- 7.1 No scaffold should be altered or dismantled other than by an instruction from the Principal Contractor to the scaffold company;
- 7.2 Adequate access has to be provided to all lifts. Reference to ladders is contained in Part III, Section 10 No. 14 - Ladders;
- 7.3 Management should ensure that all working platforms and access/egress areas are kept clean and clear. As a general rule those who bring materials to a site are responsible for their proper storage and for the disposal of off-cuts and debris;
- 7.4 Site management should ensure that each scaffold is only used for the purpose for which it is designed, and is not overloaded;
- 7.5 Scaffolds are an extension to the site and should be maintained to the highest housekeeping standards;
- 7.6 Workers should be encouraged to identify defects in scaffolds and report these to site management for action;
- 7.7 Scaffolds are often used in conjunction with hoists, lifts and gin wheels. The reader should refer to Part III, Section 10 No. 13 for guidance on these items of plant.



OTHER SCAFFOLDS AND WORKING PLATFORMS

- 8.1 The general principles outlined in sections 1 - 5 above also apply to the design, erection, inspection and use of other scaffolding types such as birdcage scaffolds, tower scaffolds, general purpose platforms and trestles;
- 8.2 Many scaffolds and working platforms are erected, constructed or built by the Principal or the sub-contractor. The general duty of care of employers extends to work on these structures. They have to be made of sound material, suitable for the purpose intended, provided with suitable access, properly tied or supported, fitted with guard rails and inspected.

Section 10

SCAFFOLD PERMIT

SCAFFOLD PERMIT

Dear Sirs

By virtue of the Public Highways Ordinance, 1967, you, for and behalf of _____ are hereby granted permission to erect a scaffolding at _____ for _____ as indicated on your application dated _____, on condition that:-

1. The Commerce & Employment Department (Health and Safety Executive) is informed on the erection of the scaffold.
2. Complete protection is offered to the public, both whilst the scaffold is being erected or dismantled and once it has been taken into use. The use of fan protection, hoarding or fencing, placed at a suitable distance from the scaffold will be required when erecting or dismantling a scaffold in areas heavily used by members of the public.
3. The scaffold shall be fitted with various forms of protection, dependent on its use. This protection will range from the use of brick guards where large heavy materials are present, to debris netting and toe boards, where smaller sized materials will be found. No materials shall be allowed to fall from a scaffold.
4. All standards and braces on the footpath are painted white to a minimum height of 6'6".
5. Toe boards are fitted to returns of working lift/platforms.
6. Measures are taken to prevent the accidental fall of any load from a lifting appliance.
7. Adequate number of through ties or drilled anchorages are used.
8. Transoms - when "thick boards are used, transoms should be fixed to the ledgers or standards at not more than 4' centres.
9. Stability - to ensure safe stability, the working platform of scaffolds consisting of prefabricated frames and tubular units should not exceed in height more than three times the minimum base width. No tower should be built with a base dimension of less than 4'. Should this height be exceeded methods of tying-in to the building should be used or counterweights placed at the base of the scaffold.
10. A notice board is attached to scaffolding indicating headroom between scaffolding and the roadway.
11. Night warning lights are provided to appropriate standards of the scaffolding.
12. A "clear-way" is provided for pedestrians between the standards over the pavement.
13. A warning notice of scaffolding to approaching motorists is placed at a convenient distance from the scaffolding.

14. A "Police Notice" restricting the width of vehicles to pass the scaffolding will be necessary and must be placed at a convenient distance therefrom.

Yours faithfully

R H BROWN
Chief Health & Safety Officer

HEALTH & SAFETY EXECUTIVE

Note:-

A separate application is needed to gain permission of the Traffic Section of the Environment Department to erect any scaffold on the public highway. Permits will not be issued for the erection of scaffolds in the town area between 1st May and 15th September, unless they are for emergency repairs.

This permit is valid for twelve months from the date of issue. If the work authorised by this permit is not commenced within twelve months, then an application for the issue of a new permit should be made.

From commencement of works this permit is valid for a period of six months. If the works are not completed within this time, then application for a new permit should be made.

* A copy of this permit will be sent to your client so that they are fully aware of its terms and conditions and their responsibilities once the scaffold has been taken into use.

This permit is without prejudice to the rights and privileges of third parties.

ACOP

- 8.3 The person erecting the scaffold should be competent to undertake that task and be aware of the limitations and safety features associated with that type of scaffold;
- 8.4 Regular and statutory inspections should be conducted;
- 8.5 Any working platform in excess of two metres must be provided with guard rails and be of sufficient width;
- 8.6 Trestles must be provided at spaces not exceeding 1.5 metres to prevent over spanning of working platforms;
- 8.7 Management should be aware that mobile towers are frequently used on temporary or unmade up surfaces and need proper outrigger support or other methods of tying;
- 8.8 To ensure stability and safety, the working platform of scaffold consisting of prefabricated frames and tubular units should not exceed in height more than three times the minimum base width. No tower scaffold should be built with a

base dimension of less than 4 feet, Should this height be exceeded, methods of tying to the building or extending outriggers should be used.

- 8.9 Scaffolds that provide access over water present management with additional problems. See Part III, Section 10 No. 27 - Work on or adjacent to water - for further guidance

Other sources of information:-

PM16	Eyebolts	1978	ISBN 0 11 883187 9
GS31	Safe use of ladders, stepladders and trestles	1984	ISBN 0 717 610233
GS42	Tower scaffolds	1987	ISBN 0 11 883941
National Association of Scaffolding Contractors			

Scaffolders and Users Guide to Safe Access Scaffolding
82 New Cavendish Street
LONDON
W1M 8AD

Reference to scaffolds constructed in accordance with BS 5973, and steel tubes and fittings complying with BS 1139. Available through the British Standards Institute.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 21 SITE HOUSEKEEPING STANDARDS

PART I

Section 1(1) and
(2)(d)

1987 Ordinance

ACOP

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.

(2)(d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

1. This Section of the 1987 Ordinance (Part 1, Section 2(d)) specifies the need to provide safe access and egress to all locations on a site or premises. Access should be considered over horizontal distances, as well as up staircases, ladders, lifts, ramps and the such like.
2. Where access runs along the side of excavations, areas under demolition or slab or staircase edges, adequate edge protection must be provided.
3. Access routes should be adequately lit at all times of the working day.
4. Restricted areas where access is prohibited to all or selected workers should be suitably barricaded and sign posted.

ACOP



5. Many building sites, premises undergoing refurbishment or extension, have limited storage space for materials, equipment and plant. It is incumbent on management to stack and store material so that the risk of injury is reduced to a minimum or eliminated.
6. A site with poor housekeeping standards is more likely to suffer damage to lifting appliances such as canvas slings.
7. A programme for cleaning toilets and any other site accommodation should be instigated at the start of the contract and regularly applied.
8. On larger sites, where a canteen may be provided for meal breaks, waste and rubbish should be carefully controlled to prevent vermin infestation.
9. By improving and maintaining housekeeping standards on site, the frequency of relatively minor accidents (stepping on a nail), more serious accidents (cuts and ankle sprains) or those where the injured party may be affected for lengthy periods (dislocated shoulder or a break) will be reduced. Housekeeping standards require an active management approach towards all company activities. Housekeeping standards are improved as a result of awareness amongst all levels of the work force.
10. As a general rule, the contractor who creates the debris, the offcuts, the empty containers, any unwanted material, is responsible for its temporary storage and removal or disposal. In simple and practical management terms, you brought the material to site, you created the debris, you remove it. The role of management is thus to ensure that the debris is removed efficiently and regularly.
11. In a sentence, good housekeeping standards are a constant element of active site safety management.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 22 - SITE TRANSPORT

PART I

Section 1(1) and
(2)(a), (c) and (d)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
 - (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular:
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
 - (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

ACOP

1. The guidance in this Standard refers to the operation of site vehicles such as fork trucks, lorries, excavators, JCB's, rough terrain vehicles, trucks, dumpers and the such like, vehicles that carry persons and materials and move earth.
2. The 1987 Ordinance places a general duty of care on the employer to provide plant and machinery that is safe to use, and personnel who are trained, or under training, in the use of that plant. However, drivers should realise that they have responsibility for the control and movement of their vehicles.
3. Accidents involving site transport are generally severe, with serious injuries or death the norm. Accidents may involve the driver or someone struck by a vehicle, or its load.
4. All site vehicles should be fitted with audible reverse alarm devices.
5. Deaf or hard of hearing workers should be given tasks that are well away from site vehicle operating zones.
6. There should be no unauthorised riding on any site vehicle. Each person riding on a site vehicle should occupy a purpose built seat.
7. To reduce the number of transport related accidents on site, safe systems of work (that is the integration of men and their machines) should be planned in the company's safety policy, incorporated into the company's training programme and strictly managed on site.
8. The 1987 Ordinance requires workers to be trained to undertake the tasks expected of them. Training of site transport operators should be considered as essential, and, it is an oversight of management to assume that a new employee is adequately trained or that an employee can safely operate any item of site machinery.
9. Vehicle operators or drivers should hold current and valid driving licenses, and a Certificate of Training Achievement from an organisation such as the Construction Industry Training Board - address provided in Part V Section 18 Appendix 3.
10. No person under the age of seventeen should be permitted to drive or be in control of a vehicle or self-propelled item of plant.
11. Many vehicle operations on site leave the driver's vision partially or entirely obscured. It is good management practice to require another worker to assist with reversing and unloading, and a banksman to be nominated for loading, lifting or excavation duties. The banksman should be trained in the use of the appropriate signals.
12. To prevent vehicles overturning or toppling into an excavation, 'stops' should be positioned to ensure that the vehicle does not approach the edge.
13. Site roads should be created as early as possible in the contract, and leveled to provide the safest movement about the site. Wherever possible, a one-way system should be introduced and signposted.
14. Speed limits should be established from day one, sign posted and enforced. Control and discipline reduce the chance of accidents.
15. The responsibility for ensuring that a lorry is correctly loaded normally rests with the driver. The exception is in the case of a dumper truck where the driver remains in his cab during the loading operation; here the responsibility is that of the driver of the loading vehicle.

ACOP

16. Some site slopes may be outside the safe operating limits for particular plant, and it is the responsibility of site management to assess the risk and decide whether to designate and mark those areas where vehicles should not operate.
17. Site management should consider the risk of contact with overhead service lines, and take preventative action.
18. Most accidents result from human error and an unattended vehicle should have the engine switched off, first gear engaged and the hand brake on. On sloping ground, the added precaution of chocked wheels should be encouraged. Saving time frequently leads to preventable accidents.
19. Injuries connected with hand starting of vehicles are common. Instruction will prevent injuries to thumbs and wrists.
20. Maintenance regimes will improve efficiency and prevent some accidents. Whilst there is no specific legislation to ensure regular inspection and testing of vehicles, the employers' general duty of care to ensure that plant is safe to use extends to site transport.
21. Visitor's vehicles coming to site should be parked well away from the operational zones of site transport.
22. At the end of the working day, site vehicles should be immobilised and chains, fencing or site gates secured and locked to reduce the chance of vehicle or site vandalism. The contractor has a responsibility to reduce the opportunities for children to walk onto site.

Other sources of information:

HSE Publications

- | | | | |
|--------------|--|------|--------------------|
| GS6 | Avoidance of danger from overhead electrical lines | 1991 | ISBN 0 11 885668 5 |
| HSE Reports: | | | |
| | Safe working with small dumpers. | | ISBN 0 11 883693 5 |

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 23 - STEEL ERECTION

PART I

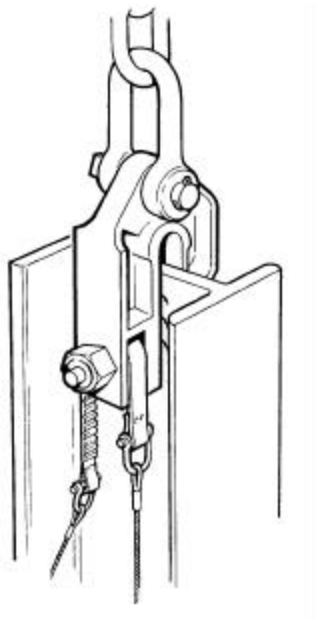
Section 1(1),
2(a) and (c)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;

ACOP

1. Accidents caused during the erection of steel structures, either crushing or falls, are usually severe and life threatening. Falls can occur from a working position or whilst gaining access to a height. Accidents can also occur whilst lifting, manoeuvring and positioning steel, and in this respect other site workers may be affected.
2. Steel is normally stored on site on a trailer or on made up, level surfaces which will not collapse under the weight of the steel. The steel should be placed on wooden spacers to simplify future slinging and lifting.
3. The steel must be stored in such a way that there is no risk of collapse.
4. There is a strong case for designating storage areas as restricted zones, and taping or fencing off the zone to prevent casual movement amongst the steel.
5. The company erecting the steel will normally commence on-site work when the Principal Contractor has completed (at least a part of) the foundations and the installation of the holding down bolts.
6. The majority of steel erection contracts will require a Method Statement which will detail all aspects of the erection sequence, safe systems of work, personal protective equipment and equipment to be used. The reader should refer to Part 1, Section 2 - Meaning of expressions and terms used in this Code of Practice -paragraph 9 - Method Statements. Further references to Method Statements will be found in the Safety Standards on Demolition and Excavations.
7. The crane must be capable of the loads and the extension anticipated for the work in hand. The inspection certification relating to engineering inspections should be held in the cab.
8. The crane operator and the banksman / slinger should be trained and competent to undertake their respective roles in the lifting and positioning operations.
9. The responsibility for the integrity of the crane and its safe operation will be the responsibility of several agencies; the crane owner, the hiring company, the planning supervisor, the site management, the external safety consultant. The Safety Plan and/or the Method Statement should identify the levels of responsibility for the entire crane operation.



10. The crane operator and slinger/banksman have responsibilities to regularly inspect the lifting gear and tackle. Reference should be made to Part III Section 10 No. 3 - Chains, ropes and lifting gear -and to the General Register in which these visual inspections have by law to be recorded and dated. See Part 1, Section 2 "Meaning of expressions and terms used in this Code of Practice - paragraph 5 - General Register".

11. It is good practice to assemble steel structures, whenever possible, on the ground surface rather than at height.

12. The general principles of slinging are outlined in Part III Section 10 No. 13 - Hoists, lifts, etc. Most lifts will be to conventional methods using chain slings. Of prime consideration in slinging steel is the Method of release without placing the erectors at unnecessary risk. Remote release shackles are one such device and there are others.

13. The Method Statement will outline the steps and stages to be taken to ensure the stability of the structure during the course of its erection.

14. General guidance on the use of ladders is set down in Part III Section 10 No. 14 - Ladders. Erectors should be required to climb to working areas as infrequently as possible and thus take the necessary tools and bolts for each off ground operation. No equipment should ever be thrown up to an erector or down from the work area.

15. Where beam access of short duration is the norm, the following safety methods of moving should be considered and used to prevent falls from height:

15.1 Walking a beam should only be permitted if there is a continuous running line of anchorage to which the erector can fix his harness;

15.2 For beams that are wider than 800mm a continuous handrail along one side of the beam may be a suitable alternative.

15.3 Beam straddling is acceptable providing the erector places both feet on the bottom flange and grips the top flange with both hands, and the upper and lower surfaces are free of obstruction.

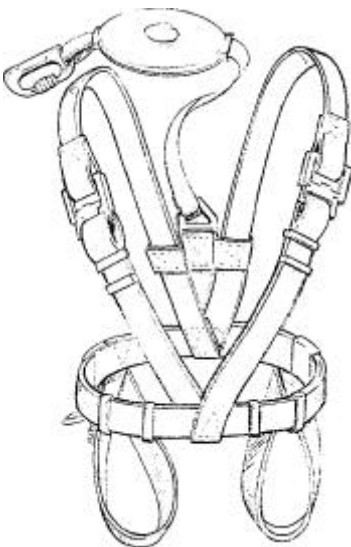


16. Steel erectors will normally wear a suitable parachute type harness and attach it to a strong point whenever they are static and at height. The strong point may be a structural beam where the rope is taken around the beam and clipped onto itself, or attached to a girder grip positioned for this purpose.

17. Where the risk of a fall cannot be prevented by any of the methods outlined in Paragraphs 15 and 16, the employer should consider the need to fix safety nets to prevent a casualty from completing his fall to the ground level.

18. The employer has a general duty of care in law to provide training, instruction and supervision in all aspects of steel erection. The gang responsible for the on-site erection should have a nominated leader. Proper supervision must be provided throughout the contract and compliance with the requirements of the Method Statement must be monitored.

19. Any unsafe working practices must be dealt with firmly and immediately. The gang leader or planning supervisor or site supervisor must be prepared to discipline any non-compliance with the safe systems of work created for the steel structure erection.



Other sources of information

HSE information

GS28	Safe erection of structures	
	Part 1 Initial planning and design	ISBN 0 11 88358 4
	Part 2 Site Management and procedures	ISBN 0 11 883605 6
	Part 3 Work places and access	ISBN 0 11 883530 0
	Part 4 Legislation and training	ISBN 0 11 883531 9

Section 10

SPECIFIC STANDARDS FOR ACTIVITIES

SAFETY STANDARD No. 24

UNDERGROUND AND OVERHEAD SERVICES

PART I

Section 1(1) and
2(a), (c) and (d)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
 - (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

ACOP

1. Power cables, both underground and overhead, as well as water, gas and drainage pipes, and high pressure fuel lines, present a real hazard to many building operations.
2. As part of their general duty of care, the employer has to ensure, as far as reasonably practicable, that no employee, or person who could be affected by an act, suffers from ill health or injury.
3. Modern management techniques require the employer to assess the risk from possible underground or overhead services before work starts on site, and ensure that the risks are eliminated or reduced by taking appropriate action. Risk assessment requires that all hazards are listed.... for more detailed explanation refer to Part II Section 5 earlier in the ACOP.
4. As part of this assessment, the assistance of Guernsey Electricity (GE), the Gas Company, States Telecoms and the States Engineers Department should be enlisted. The principal safety hazard is from electricity and gas supplies.

5. There is comparatively little overhead electrical cable in the Island. The employer is responsible for locating cable that comes to or passes over the site, and requesting the relevant authority to relocate the service if there is a risk of damage to the service or injury to his workers or sub-contractors.
6. The contractor is responsible for obtaining the best information possible on the location of Underground supplies, including any that may be privately owned. Guernsey Electricity has computerised records, which show the location of all recent service cable records.

This information can be obtained from GE if requested by letter or telephone, giving fourteen working days notice. There are several locating devices:

Hum devices
Radio frequency detectors
Transmitter – receiver instruments
Metal detectors

Any device used should be operated to the manufacturers' instructions by a competent person who is able to interpret the signals or readings.

7. The line of identified services should be marked on site plans and /or the land surface.
8. The detection device may not identify that two pipes are positioned close to one another nor the location of plastic pipes unless a metal tracer or signal transmitter is run down the pipe.
9. Once the run of the services has been detected, they should be positively located by using hand tools; in this work, an air knife may be particularly useful. As a general rule, the digging should be carried out alongside the service. Once exposed, the type of service should be positively identified before further unearthing or cutting off of the service is sanctioned. Contractors are not allowed to cut GE cables (see also paragraph 3.3.1 of Part III Section 10 No. 6 - Electricity).
10. 'Pot-ended' cables should be treated as live until the service engineer has made his decision. All cables must be treated as live until proven otherwise.
11. Because of the difficulty in determining the precise depth of cable, hand-held power tools should never be used directly over cable unless
 - 11.1 the depth of the cable has been previously determined by hand digging, or
 - 11.2 physical precautions are taken to prevent the tool striking the cable.
12. When mechanical excavators are in use a constant and careful watch must be maintained in the area of the bucket. If a cable is struck, the assumption should be made that the excavator has become live and the following procedures should be implemented.
 - 12.1 The driver should either stay in his cab until an electrical engineer has been called to site, or he should jump well clear, the driver should not climb down from his cab;
 - 12.2 No other person should enter the excavation or climb onto the excavator until the damaged cable has been made safe.
13. The work procedures for unearthing gas pipes are similar to those where electricity cables are known to be present.

13.1 Take every precaution to locate their position and depth;

13.2 Hand dig to expose the metal or plastic pipe;

13.3 Because gas pipes have many projections, it is recommended that mechanical excavators are not used within 500mm of a gas pipe.

14. Explosives must not be used within 30m of gas pipe.

15. The Gas Company must be consulted if welding or hot work is proposed adjacent to gas pipes. Adequate protection must also be provided and used to prevent hot work damage to plastic or plastic coated pipes.

16. The reader should also refer to Section 3.2 of Part III Section 10 No. 6 - Electricity.

Other sources of information

HS(G)47	Avoiding danger from underground services.	ISBN 0 11 885492 5
GS6	Avoidance of danger from overhead electrical lines	1991 ISBN 0 11 885668 5

National Joint Utilities Group

Publication No. 3 : Cable locating devices

Publication No. 4 : The identification of small buried mains and services

Publication No. 8 : Performance guide for the assessment of metallic pipe and cable locators.

Section 10

SPECIFIC STANDARDS FOR ACTIVITIES

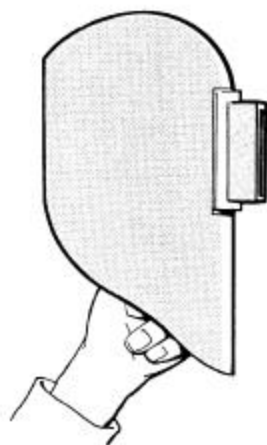
SAFETY STANDARD No. 25 - WELDING

PART I

Section 1(1), and
(2)(a) and (c)

1987 Ordinance

ACOP



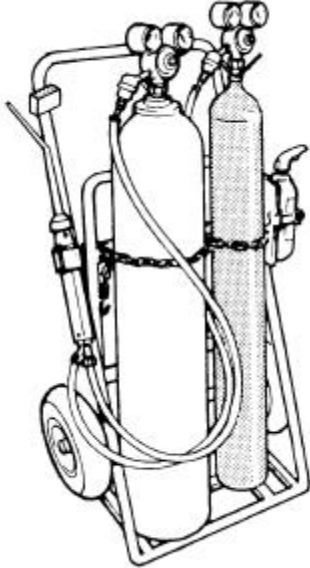
1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
(2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees

1. There are many welding processes but the two most common in the construction industry are:
 - 1.1 Gas welding where metal fusion is achieved by the use of very high temperature flames, produced by a mixture of oxygen and fuel gas, such as acetylene or LPG.
 - 1.2 Electric arc welding where an arc is struck between an electrode and the workpieces. At approximately 4,000°C the workpieces are melted and fused.
2. These processes will be dealt with separately but much of the guidance provided in this Safety Standard applies equally to both types of welding.

3. GAS WELDING

- 3.1 The principal hazards associated with gas welding are fire, explosions, burns, eye damage, heat stress, respiratory disease and systemic poisoning.
- 3.2 Acetylene is lighter than air, LPG is heavier.
- 3.3 Oxygen should be stored at least 3 metres from other gas bottles to avoid the possible build-up of explosive atmospheres in the event of leaks.
- 3.4 Gas cylinders should be stored upright on a level hard surface with high and low ventilation. For more detail on the storage of LPG, refer to Part III Section 10 No. 10 -Flammable Materials.
- 3.5 Oxygen cylinders may be stored horizontal with blocks to prevent rolling, acetylene and LPG always upright.
- 3.6 Full and empty bottles should be stored separately.
- 3.7 It is preferable to move and store cylinders in purpose built trolleys. No lifting or pushing or levering pressure should be placed on nozzles.
- 3.8 Cylinders should not be dropped or subjected to sharp knocks or shocks.
- 3.9 Regulators must always be fitted to the cylinders to reduce the gas

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pressure from that in the cylinder to the working pressure of the blow pipe. The adjusting screw of the regulator must always be released before the cylinder valve is opened, and the cylinder valve must be opened gradually. This is intended to prevent the generation of excessive heat, which might be enough to ignite the valve material or damage the gauge.

3.10 Before commencing ignition and welding the operator will purge both hoses with supplies of gas to ensure no build-up of explosive gas mixture has accumulated. To prevent flashback during operation, a flashback arrestor must be fitted and be operational.

3.11 As only trained and competent welders or welders under instruction, will be required to undertake gas welding, they will be aware of the dangers from:

- 3.11.1 Snap-out;
- 3.11.2 Backfire and/or Sustained Backfire;
- 3.11.3 Flashback.

... and know the procedures to prevent these 'minor' explosions, and what corrective action to take should they occur.

3.12 Should an acetylene cylinder become accidentally heated or get hot due to internal decompression, the emergency procedure for the operator and Site Supervisor is as follows:

- 3.12.1 raise the alarm and call the Fire Brigade;
- 3.12.2 attempt to remove any heat sources;
- 3.12.3 close cylinder valves, if possible;
- 3.12.4 evacuate the area;
- 3.12.5 liaise with the Fire Brigade personnel on their arrival;
- 3.12.6 arrange for the affected cylinder to be removed by the supplier once the emergency has passed.

3.13 To protect the eyes of the gas welder from infra-red and visible light, box goggles must be used with a housing to BS 1542, and filters made to BS EN 169 and 171.

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4. ELECTRIC ARC WELDING

4.1 The current used may be either direct or alternating. It is important that the voltage used be as low as is consistent with efficient welding.

4.2 On construction sites, arc welding is frequently carried out with direct current supplied from diesel driven mobile generators. A welding lead takes the current from the generator to the electrode holder. A welding return, usually but incorrectly termed the 'earth', carries the return current from the workpiece being welded back to the generator.

4.3 Welding leads and return cable must be capable of withstanding the hard wear experienced on construction sites. Joints between cable sections should be made with properly constructed insulated cable coupling, and adequately shrouded. The welding return should be firmly attached to the metal on which welding is taking place by a well constructed clamp. All these items should be regularly inspected and repairs made as appropriate.

4.4 Electrode holders should be fully insulated.

4.5 In addition to the hazards associated with gas welding, (see Paragraph 3.1 above) hazards associated with arc welding include electric shock, ultra-violet radiation (UV) and ozone build up.

4.6 Arc welding gives off UV radiation and protection is required in the workplace in two distinct areas:

- 4.6.1 Welders must be protected to prevent temporary eye conditions or possible permanent eye damage. They must be issued with, and wear, helmet or head screen with the housing complying to BS 1542, and fitted with filters to BS EN 169 and 170;
- 4.6.2 Persons working in the vicinity of arc welding also need protection from the effects of UV radiation. This protection is usually in the form of screens located around the worker's welding area.

5. GENERAL CONSIDERATIONS WITH WELDING OPERATIONS.

5.1 Fire is a real hazard so any explosive mixture or combustible material should be kept away from welding operations.

5.2 In some site locations, fire resistant sheets should be positioned to ensure the surroundings are not threatened by flame and spatter.

5.3 A suitable fire extinguisher should always be positioned in the vicinity of welding operations.

5.4 To prevent skin burns to welders, the employer should ensure that the welder's skin is adequately protected.

5.5 Welders may be subjected to heat stress if required to weld for long periods, and especially in confined spaces. Fainting may result. If heat stress is recognised as a potential hazard, management should consider two courses of action.

5.5.1 provision of local ventilation

5.5.2 require a second person to act as a standby.

5.6 Every welding process produces gas and fumes which may result in respiratory disease. These harmful/irritant gases and fumes include iron oxide, carbon monoxide, nitrous fumes and ozone. To reduce the risk to welders and others working in the vicinity, the employer/site management should ensure:

- 5.6.1 that a risk assessment is conducted before welding commences so that the material to be welded can be identified and appropriate precautions taken;
- 5.6.2 that extractor hoods should be fitted as close as possible to the welding, with filters and exhaust pipes taking the noxious gas to the atmosphere;
- 5.6.3 that local and general ventilation is maximised.

5.7 Fumes from galvanised metals, lead coated or other toxic metals may not only affect the respiratory system but also lead to systemic poisoning. The provision and use of a localised exhaust ventilation System for this type of work is essential and, in addition, respiratory equipment may be required.

5.8 Any site hot work poses a potential risk after the site has closed down for the day. To reduce the risk of fire after the end of the working day, the welder and the site supervisor should ensure:

- 5.8.1 that welding work ceases not less than one hour before the site closes for the day;
- 5.8.2 that thorough inspections are conducted to ensure that no smouldering material is left;

- 5.8.3 that transmitted heat does not pose a risk some distance away from the exact location of the welding.

6. HOT WORK IN TANKS OR OIL DRUMS CONTAINING ANY HYDROCARBON

- 6.1 When exposed to air, hydrocarbons give off vapors, which are explosive, flammable and toxic. Precautions must therefore be designed to prevent accidental ignition and inhalation.
- 6.2 Before work commences, a method statement should be written by a competent person detailing the work to be undertaken and its sequence. Those who will undertake the work should be made fully conversant with all the procedures.
- 6.3 The method statement will include at least the following.
- 6.3.1 The method for emptying the hydrocarbon from the tank or drum;
 - 6.3.2 All combustible material should be cleared from the immediate vicinity.
 - 6.3.3 Checks should be made to ensure that heat cannot be conducted to a source of ignition.
 - 6.3.4 Any valves should be closed and the tank or drum thoroughly purged using water and the lids left open to encourage evaporation.
 - 6.3.5 The hydrocarbon can be expelled by using steam cleaning methods, ensuring that any rust residue at the bottom of the tank is freed of explosive mixture.
 - 6.3.6 Purging can also be achieved by using nitrogen or some other inert gas.
 - 6.3.7 Before the hot work commences, a competent person must inspect the tank, test the air quality and if he is satisfied that the area is fit to allow the welding operation, he will issue a Gas Free Certificate.
 - 6.3.8 Fire extinguishers should always be available near the hot work activity.

Other sources of information

HSE Publications

HS(G)118	Electrical safety in arc welding	1994	ISBN 07176 0704 6
EH54	Assessment of exposure to fume from welding and allied processes	1990	ISBN 0 11 885429 1
EH55	The control of exposure to fume from welding and allied processes	1990	ISBN 0 11 885439 9
CRR47/1992	A comparison of short and long term monitoring for particulate welding fume	1993	ISBN 0 11 882042 7
CRR64	Exposure to UV radiation	1994	ISBN 0 7176 0749 6
HSE8	Oxygen: fire and explosion hazards in use and misuse of oxygen		

Other publications

British Compressed Gases Association Code of Practice:

CP7 Safe use of oxy-fuel gas equipment.

TWI (ex Welding Institute)

Health and Safety in welding and allied processes

Abington Hall, Abington, Cambridge, CB1 6AL

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 26 – WOODWORKING MACHINERY

PART I

Section 1(1) and
(2)(a)(c) and (d)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
(2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular:
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
 - (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

PART II
Sections 3-17
inclusive and

PART III
Section 18
1959
Woodworking
Machinery

3. (1) It shall be the duty of the occupier of any premises to which this Ordinance applies to comply with the provisions of this Ordinance and to the best of his power enforce the observance thereof.
(2) It shall be the duty of all contractors, workmen and persons employed at any such premises to conduct their work in accordance with the said provisions.
4. Every woodworking machine shall be provided with an efficient stopping and starting appliance and the control of that appliance shall be in such a position as to be readily and conveniently operated by the person in charge of the machine.
5. (1) Sufficient clear and unobstructed space shall be maintained at every woodworking machine while in motion to enable the work to be carried on without unnecessary risk.
(2) The floor surrounding every woodworking machine shall be maintained in good and level condition and as far as practicable free from chips or other loose material and shall not be allowed to become slippery.
6. (1) Where the natural light at a woodworking machine is inadequate and can be improved by the provision of additional or better windows not involving serious structural alteration or by whitening the walls or tops of the premises or by any other reasonable means, the occupier shall take steps as aforesaid to improve the natural light at the said machine.
(2) The means of artificial lighting for every woodworking machine shall be adequate and shall be so placed or shaded as to prevent direct rays of light from impinging on the eyes of the operator while he is operating the machine.
7. A woodworking machine shall not be worked in any underground room which is certified by the Authority to be unsuitable for the purpose as regards construction, light, ventilation or in any other respect.
8. The temperature of any part of a room in which a woodworking machine is being worked shall not at any time fall below fifty degrees Fahrenheit, except where and in so far as the construction of the room and the necessities of the business carried on make it impracticable to maintain that temperature.

9. (1) Every person while being trained to work a woodworking machine shall be carefully and fully instructed as to the dangers arising in connection with such machine and the precautions to be observed.

(2) A person shall not be employed at a woodworking machine unless he has been sufficiently trained to work that class of machine or unless he works under the adequate supervision of a person who has a thorough knowledge of the working of the machine.

10. (1) Every circular saw shall be fenced as follows, that is to say:

(a) the part of the saw below the bench table shall be protected by two plates of metal or other suitable material, one on each side of the saw, and such plates

(i) shall not be more than six inches apart;

(ii) shall extend from the axis of the saw outwards to a distance of not less than two inches beyond the teeth of the saw; and

(iii) in the case of metal plates which are not beaded, shall be of a thickness at least equal to fourteen gauge; or

(iv) in the case of metal plates which are beaded, shall be of a thickness at least equal to twenty gauge;

(b) behind and in a direct line with the saw there shall be a riving knife, which shall have a smooth surface, shall be strong, rigid and easily adjustable and shall conform to the following conditions, that is to say

(i) the edge of the knife nearer the saw shall form an arc of a circle having a radius not exceeding the radius of the largest saw used on the bench;

(ii) the knife shall be maintained as close as practicable to the saw, having regard to the nature of the work being done at the time;

(iii) the distance at the level of the bench table between the front edge of the knife and teeth of the saw shall not exceed half an inch;

(iv) in the case of a saw of a diameter of less than twenty-four inches, the knife shall extend upwards from the bench table to within one inch of the top of the saw;

(v) in the case of a saw of a diameter of twenty-four inches or over, the knife shall extend upwards from the bench table to a height of at least nine inches;

(c) the top of the saw shall be covered by a strong and easily adjustable guard, with a flange at the side of the saw farthest from the fence, and such guard

(i) shall be kept so adjusted that the said flange shall extend below the roots of the teeth of the saw; and

(ii) shall extend from the top of the riving knife to a point as low as practicable at the cutting edge of the saw.

(2) A suitable push-stick shall be kept available for use at the bench of every circular saw, which is fed by hand, to enable the work to be carried on without unnecessary risk.

11. Every plain band saw shall be guarded as follows, that is to say:

(a) both sides of the bottom pulley shall be completely encased by sheet metal or other suitable material;

(b) the front of the top pulley shall be covered with sheet metal or other suitable material; and

(c) all parts of the blade shall be enclosed or otherwise securely guarded, except the part of the blade between the bench table and the top guide.

12. (1) A planing machine, which is not mechanically fed, shall not be used for overhand planing unless it is fitted with a cylindrical cutter block.

(2) Every planing machine used for overhand planing shall be provided with a bridge guard capable of covering the full length and breadth of the cutting slot in the bench and so constructed as to be easily adjusted both in a vertical and horizontal direction.

(3) The feed roller of every planing machine used for thicknessing, except

the combined machine for overhand planing and thicknessing, shall be provided with an efficient guard.

13. (1) The cutter of every vertical spindle moulding machine shall, when practicable, be provided with the most efficient guard having regard to the nature of the work which is being performed.

(2) As respects such work as cannot be performed with an efficient guard for the cutter, the wood being moulded at a vertical spindle moulding machine shall, if practicable, be held in a jig or holder of such construction as to reduce as far as possible the risk of accident to the worker.

(3) A suitable spike or push-stick shall be kept available for use at the bench of every vertical spindle moulding machine.

14. The chain of every chain mortising machine shall be provided with a guard which shall enclose the cutters as far as practicable.

15. The guards and other appliances required by the provisions of this Ordinance shall be maintained in an efficient state and shall be constantly kept in position while the machinery is in motion, except when, owing to the nature of the work being done, the use of the guards or appliances is rendered impracticable, and such guards shall be so adjusted as to enable the work to be carried on without unnecessary risk.

16. The provisions of subsection (1) of section ten (which relates to circular saws), section eleven (which relates to plain band saws) and subsection (2) and subsection (3) of section twelve (which relates to planing machines) of this Ordinance shall not apply to any woodworking machine in respect of which it can be shown that other safeguards are provided and maintained which render the machine equally safe as it would be if guarded in accordance with the provisions of this Ordinance.

17. Any obligation as to any fencing of any part of any woodworking machine imposed under the provisions of this Ordinance shall be in substitution for any obligation as to fencing in respect of that part of that machine imposed under the provisions of:

- (a) section three of the Ordinance of 1952; or
- (b) section nine of the Quarries (Safety) Ordinance, 1954; or
- (c) section four of the Safety of Employees (Growing Properties) Ordinance, 1954.

PART III

General

18. (1) A person employed on a woodworking machine shall

- (a) use and maintain in proper adjustment the guards provided in pursuance of the provisions of this Ordinance;
- (b) use the spikes, push-sticks, jigs or holders provided in pursuance of the provisions of subsection (2) of section ten (which relates to circular saws) and subsection (2) and subsection (3) of section thirteen (which relates to vertical spindle moulding machines) of this Ordinance;

except when, owing to the nature of the work being done, the use of the guards or appliances is rendered impracticable.

- (2) A person employed at any premises to which this Ordinance applies shall not:
 - (a) wilfully interfere with or misuse any guards or any other appliance provided in pursuance of the provisions of this Ordinance and where such guards or other appliance are provided for the use of any such person under this Ordinance he shall use the guards or appliance;
 - (b) wilfully and without reasonable cause do anything likely to endanger himself or others.

1. In civil and common law the employer has a general duty of care to provide plant, machinery and tools that are, as far as reasonably practicable, safe to use.
2. The duty to guard the moving part of machines is absolute, irrespective of financial or commercial considerations, or the age or origins of the machine.
3. For the purposes of this Code of Practice, the following types of machine apply
 - 3.1 any sawing machine whether single bladed or fitted with two or more blades;
 - 3.2 grooving machines;
 - 3.3 a saw with a continuous band or strip;
 - 3.4 chain sawing machines;
 - 3.5 mortising machines;
 - 3.6 planing machines;
 - 3.7 vertical spindle-moulding machines;
 - 3.8 multi-cutter machines
 - 3.9 tenoning machines;
 - 3.10 trenching machines;
 - 3.11 Automatic and semi-automatic lathes;
 - 3.12 boring machines.

The guarding of machines in these categories applies whether they are fixed or portable.

4. Any employee required to work on a machine, especially a young person, must be trained and instructed in its proper use and made aware of the dangers arising in connection with its use.
5. When a woodworking machine is in use, the operator must make use of:
 - 5.1 the guard;
 - 5.2 spikes, push-sticks, gigs, holders and back stops as appropriate.
6. A guard is not adequately fixed if it can be removed by undoing wing nuts.
7. A good guard is designed to protect the machinist and not to slow down the operation.
8. All machinery and electrical connectors and leads should be regularly inspected and tested. There is no specified time scale for the inspections, but the general duty of care of employers to provide plant and machinery that is safe to use cannot be overstated. Employees should be encouraged to inspect machines before they start work with them and, if damage is identified, have repairs undertaken before re-commencing work.
9. Maintenance is essential. Apart from lengthening the life of the machinery or plant and producing a better product, well maintained machines are safer.
10. The work area and bench should be adequately lit by natural or artificial light.
11. Housekeeping standards should be a priority and the policy enforced.

MACHINE SHOP SAFETY

1. Accidents in the workshop fall into three classifications
 - 1.1. Physical injuries, cuts, amputations;
 - 1.2 Dust related accidents.... nasal cancer;

1.3 Fire ... caused by electrical faults or smoking,

2. Much of the guidance concerning guarding applies to plant whether it is portable plant on site or fixed in a machine shop. All cutting tools, drills and moving parts have to be guarded. There have to be effective measures to prevent contact with dangerous parts of machines.
3. Machinists should wear suitable, close fitting clothing, and no jewelry around the neck.
4. Most woodworking machines, when operating, create levels of noise that may damage the hearing mechanism of those working in the shop. A noise assessment is the surest way of determining the risk.
5. A noise assessment should:
 - 5.1 establish the noise levels in a typical day's work;
 - 5.2 attempt to reduce the noise levels at source by improved design or enclosing the noisy part of the machinery,
6. Where the assessment puts the daily personal noise exposure level at 85 dB(A) the affected worker should be provided with hearing protection if it is requested, Where the daily personal exposure level reaches 90 dB(A) the employee must be provided with appropriate hearing protection, and it should be worn at all times when the employee enters the designated noise zone. Employees should not be charged for personal protective equipment.

For further guidance on the noise problem see Part III Section 10 No, 15 - Noise reduction techniques.

7. It is good practice to display statutory signs (blue and white) in those zones where ear protection should be worn. This practice heightens awareness and helps management to enforce the practice.
8. When the operation of a machine threatens the eyes of an employee, suitable goggles or glasses should be provided, and statutory signs displayed.
9. Airborne dust, particularly the hardwood variety, is an irritant and can cause nasal cancer. To reduce the risk, the modern trend is to extract the dust at source and to remove it via ducts to dust collection sacks outside the building.
10. Dust that falls to the bench and floor should be regularly vacuumed or swept away to keep the floor working areas clean.
11. Offcuts and re-usable timber should be regularly placed in the appropriate place for disposal or re-use.
12. It is usual in well managed workshops to have emergency cut-off one employee is threatened whilst working at a machine, a colleague can activate the emergency button to switch off that and all other machines.
13. Adequate first aid supplies should be maintained in the workshop.
14. Woodwork shops present a high fire risk. To reduce these risks, management should consider introducing the following policies:
 - 14.1 a non-smoking policy in the workshop;
 - 14.2 the positioning of fire extinguishers;
 - 14.3 storage of hazardous chemicals, solvents and paint in a metal box with a lid;
 - 14.4 the very best housekeeping standards.

Other sources of information

HSE Publications

PM2 Guards for planing machines: 1976 ISBN 0 11 883047 3
HS(G)83 Training woodworking
machinists 1992 ISBN 0 11 886316 9

Woodworking Information sheets - there are 26 sheets covering most aspects of woodworking activity. Available from National Interest Group, Tel: 01582 444200

Section 10

SPECIFIC STANDARDS FOR ACTIVITIES

SAFETY STANDARD No. 27

WORK ON OR ADJACENT TO WATER

PART I

Sections 1(1) and
2(a), (c) and (d)

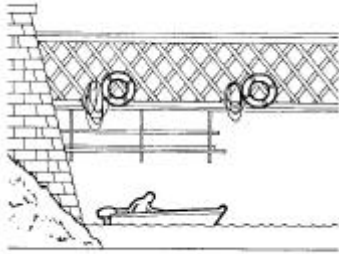
1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
(2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
 - (a) the provision and maintenance of plant and systems of work that are, so far as is reasonably practicable, safe and without risks to health;
 - (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;
 - (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

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1. Modern safety management requires that a hazard assessment be undertaken and steps introduced to reduce or eliminate the risk. Clearly, working over or near water presents hazards and this guidance will assist management who work in association with a water environment,
2. If a boat is to be used to transport men to work, it should be of sound construction and skippered by a competent person. The vessel should be licensed for the work to be undertaken and not overloaded.
3. The vessel will have modern navigation systems and a valid life raft for the number licensed to be carried. It will carry sufficient life jackets for each passenger.
4. When transferring workers by dinghy from or to the transport vessel it is recommended that life jackets are worn.
5. If there is any risk from drowning on a construction site, management should supply lifebuoys with an adequate length of rope, life jackets or buoyancy

ACOP



aids and even a manned rescue boat.

6. When vessels are involved in transporting work gangs, due consideration should be given to tidal heights and flow and to weather forecasts.
7. Where a workman can fall, a considerable distance, it may be advisable to provide safety nets and/or safety harnesses.
8. Adequate lighting should be provided when work is necessary under a jetty or when natural light fails.
9. Because working platforms may be exposed to strong winds, wave or tidal movement, frequent inspections should be undertaken to ensure that a safe working environment and access is provided throughout the contract.
10. Safety helmets should be worn at all times since anyone struck on the head and then falling into the water is at special risk. Non-slip sole shoes will normally be appropriate.
11. Site Management should consider creating an Emergency Procedure to deal with incidents that are life threatening.
12. Depending on the size of the workforce, consideration should be given to training one or more employees in life saving techniques.

Other sources of information

Water Authorities Association : Advisory Broadsheets.

Section 10

STANDARDS FOR SPECIFIC ACTIVITIES

SAFETY STANDARD No. 28 – WORK OVER FRAGILE MATERIALS

PART III

Section 1(1)
and (2)(d)

1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
- (2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
- (d) so far as is reasonably practicable as regards any place of work under the employer's control, the maintenance of it in a condition that is safe and without risks to health and the provision and maintenance of means of access to and egress from it that are safe and without such risks;

PART III

Section 45(3)

1952 Safety of
Employees

- (3) Where work is being done on or near roofs or ceilings covered with fragile materials through which a person is liable to fall a distance of more than 10 feet and where workmen have to pass over or work above such fragile materials, suitable and sufficient ladders, duck ladders or crawling boards, which shall be securely supported, shall be provided and used.

1. Falls represent the biggest single factor in serious accidents on building sites. Falls through roofs are all too frequent and usually result in serious injury.
2. The employer has a responsibility to determine the nature of the material of which the roof is composed and to assess the hazards associated with working on the roof. This action should be taken well before the Start of the contract so that a method of working and all necessary safety equipment is on site at the start of the contract
3. What is fragile? The United Kingdom's Health and Safety Executive have conducted drop tests to simulate the impact of a human body. The following is a list of 'new' products considered fragile:
 - 3.1 Asbestos and non-asbestos cement sheets less than 9mm thick.
 - 3.2 Asbestos and non-asbestos cement sheets sprayed with polyurethane foam insulation 38 - 50mm thick.
 - 3.3 Profiled acrylic sheet 3mm thick.
 - 3.4 Plain and wired PVC sheeting, flat or profiled, 2-3mm thick.
 - 3.5 Single PVC sheet, curved in section, 4mm thick.
 - 3.6 Square pyramid PVC roof light, 600 x 600mm on plan and 22mm thick.
 - 3.7 Asbestos cement reinforced with glass fibre mats, curved in section, 9mm thick.
 - 3.8 Chipboard or particle board, non-structural grade or where affected by water, 19mm thick.
 - 3.9 Woodwool cement sheets and slabs, 50mm thick or less.
 - 3.10 Bitumen impregnated compressed fibre board or sarking board, 20mm thick.
4. Repairs to a non-fragile roof may have been made and covered with a common layer of paint or tar-coating. The survey or assessment of the roof before work commences should locate any soft or fragile areas of the roof.
5. It is important that weight (body weight or a material load) is not placed on a fragile roof. Roof ladders, crawling boards or widths of boarding should be used to provide access and/or working platforms. If scaffold boards are used they should be spaced across roof corrugations to prevent rocking.
6. Where a valley or parapet gutter of a fragile roof is used for access, protection against falling through the fragile material should be provided. If the risk of falling through cannot be entirely eliminated, the roof worker should be required to wear a harness, which is attached to a taut wire running along the valley.
7. If work is in progress on a roof, which is designed and capable of holding the weight of humans, any identified localised areas of fragile roof should be protected by suitable barriers, which will prevent unintentional weight being placed on it.
8. Whilst work is in progress on fragile roofs, consideration should be given to any person or machinery below who/which may be injured or damaged by objects falling through the roof.
9. Whether the roof work with fragile materials is new build, renovation, demolition or maintenance, employers have a particular responsibility in law when the potential for a fall exceeds a height of two metres. Adequate edge protection, internal birdcage scaffold, the use of tower scaffolds or the wearing and attaching of harnesses may provide safer working conditions.

PART IV

Note to owners and occupiers of premises with fragile roof material: Warning notices should be fixed at the approaches to any area covered with fragile material, unless the entire area is covered with glass.

Other sources of reference:

Deadly maintenance: roofs: a study of fatal accidents at work

1985 ISBN 0 11 883804 0

Section 11

INFORMATION, TRAINING AND INSTRUCTION

PART I
Section 1(2)(c)
1987 Ordinance

(2) (c) the provision of such information, instruction, training and supervision as is necessary to ensure, so far as is reasonably practicable, the health and safety at work of his employees;

PART II
Section 89
1959 Woodworking Machinery

9. (1) Every person while being trained to work a woodworking machine shall be carefully and fully instructed as to the dangers arising in connection with such machine and the precautions to be observed.

(2) A person shall not be employed at a woodworking machine unless he has been sufficiently trained to work that class of machine or unless he works under the adequate supervision of a person who has a thorough knowledge of the working of the machine.

PART I
Section 7
1952 Safety of Employees

7. (1) No young person shall work at any machine to which this section applies, unless he has been fully instructed as to the dangers arising in connection with the machine and the precautions to be observed, and

- (a) has received a sufficient training in work at the machine; or
- (b) is under adequate supervision by a person who has a thorough knowledge and experience of the machine.

(2) This section applies to the following machines:

Power presses other than hydraulic presses;

Milling machines in use in the metal trades;

Guillotine machines;

Brick and tile presses driven by mechanical power;

Dough mixers and dough brakes;

Meat mincing machines driven by mechanical power; Hydro-extractors in use in laundries;

Platen printing machines; and

Carding machines in use in upholstery works.

ACOP

1. Apart from the obvious commercial advantages and benefits of employing qualified, trained and competent personnel, there is a legal requirement under common and statutory law to ensure that employees are capable of undertaking the task required of them by their employer.
2. A person may be considered competent to undertake a task depending on his level of experience, knowledge, training and supervision, Employers should beware of relying on common sense, or assume that long service in the industry equates to knowledge of health and safety systems that are acceptable in the last decade of this century.
3. The law also requires that employees are working alongside competent persons. This places a responsibility on the employer to ensure, as far as reasonably practicable, that only experienced sub-contractors are allowed on site.
4. Supervision of young people is an important element of good management and to this end placing a new recruit under the careful guidance of a 'father figure' who has good communication skills should be considered.
5. The bulk of training should be conducted in company time and at no expense to the candidate. Evening courses may be an attractive alternative.
6. In any company training programme, the requirement of all levels of employee should be considered. It is worth noting that a manager should know how to manage safely and that the craftsman should know how to change an abrasive wheel.
7. The trend in construction management is towards identifying hazards and taking action to reduce the perceived risks. Training may be necessary to ensure that management know how to follow that sequence of actions.
8. A good deal of safety training can be achieved by displaying notices and posters, and these are available through many outlets.
9. Management should also recognise the educational advantages of firm management and strong leadership. If safety standards are to improve on construction sites, management have to personally set the highest standards.

Training should be seen as an investment in the company and the industry, and not as a cost to be avoided. (See Part V, Section 18 Appendix 3 for full details of Training Organisations),

Section 12

WELFARE & SANITARY ARRANGEMENTS

PART I
Section 1(1) and
(2)(e)
1987 Ordinance

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
(2) Without prejudice to the generality of an employer's duty under subsection (1) above, the matters to which that duty extends include in particular
(e) the provision and maintenance of a working environment for his employees that is, so far as is reasonably practicable, safe, without risks to health, and adequate as regards facilities and arrangements for their welfare at work.

ACOP



The 1987 Ordinance places a general and specific duty on the employer to consider these aspects of site management.

1. The level of investment in welfare and sanitary arrangements will depend on the size and length of contract, the nature of the work and the proximity to existing sanitary services.
2. The guidance contained in this section should therefore be interpreted to some extent by the size and location of the contract.
3. Recognising the advantages to work rate and efficiency of keeping workers on site, it may be to the advantage of the contractor to provide temporary or portable toilet and wash hand facilities.
4. If these facilities as outlined in 4 above are provided, management should ensure that the ancillary supplies are renewed, that waste hand towels are disposed of and that the toilets are cleaned and disinfected on a regular basis.
5. On larger sites, management should consider the advantages of providing canteen facilities, drying facilities and a space for clothing storage.
6. It is wrong to assume that the client will allow the construction workforce to share existing welfare and sanitary facilities, but pre-start discussions may lead to a degree of co-operation in this important area of site management.
7. A clean site is usually a safer site and this applies equally to any welfare or sanitary facilities as to clean working platforms and safe access along stairs, passages or gangways.
8. On larger sites, it may be necessary to consider providing toilet facilities for female staff.

Section 13

FIRST AID

Sections 2 and 3

1954 First Aid and Welfare

2. (1) A first-aid box or cupboard shall be provided and maintained so as to be readily accessible at every factory, every quarry and every growing property.

(2) The first-aid box or cupboard at any factory, quarry or growing property, at which:

- (a) the number of persons employed does not exceed fifty; or
- (b) mechanical power is used and the number of persons employed does not exceed ten;

shall contain at least the items specified in the First Schedule to this Ordinance.

(3) The first-aid box or cupboard at any factory, quarry or growing property, at which:

- (a) the number of persons employed does not exceed fifty; or
- (b) mechanical power is used and the number of persons employed exceeds ten;

shall contain at least the items specified in the Second Schedule to this Ordinance.

(4) For the purpose of this section:

- (a) the number of persons employed at any factory, quarry or growing property shall be taken to be the largest number of persons employed thereat at any one time; and

- (b) where the persons employed at any factory, quarry or growing property are employed in shifts, the calculation of the number employed shall be according to the largest number at work at any one time.

3. As respects every first-aid box or cupboard provided and maintained in pursuance of section two of this Ordinance

- (a) the first-aid box or cupboard shall be marked plainly "FIRST-AID";
- (b) only appliances or requisites for first-aid shall be kept therein;
- (c) all materials for dressings contained in a first-aid box or cupboard shall be those designated in, and of a grade or quality not lower than the standards prescribed by, the British Pharmaceutical Codex or any supplement thereto; and
- (d) the first-aid box or cupboard shall be placed under the charge of a responsible person who shall always be readily available during working hours.

ACOP

1. Every place where people are employed shall be provided with a well-stocked first aid box.
2. However stringent and positive the employer is towards site safety management, inevitably there will be accidents to personnel that require on the spot first aid for straight forward injuries and, for more serious or life threatening injuries, the need to stabilise a casualty until the Ambulance Service arrives on site.
3. When considering the provision of first aiders within a company or on site, the employer should be mindful that illness as well as injury may require urgent treatment.
4. In the United Kingdom, the Health and Safety (First Aid)) Regulations 1981 Code of Practice 1990 place much more stringent requirements on employers, and much of the guidance that follows is based on the good practices contained in these two documents.
5. When considering the first aid needs within a company or on site, the following points should be used as guidance:
 - 5.1 The number of employees and their geographical spread.
 - 5.2 The nature of their work... some building work is more hazardous than others.
 - 5.3 The use of shift work.
 - 5.4 The distance from outside medical service, a very short time span on the Island.
6. A suitable person or first aider under the 1981 Regulations quoted in paragraph 4 above is someone who holds a current first aid certificate through a recognised approved body - the St John Ambulance and Rescue Service is one such organisation.
7. **FIRST AID PROVISION ON LARGE SITES**
The following recommendations are made:-
 - 7.1 There should be at least one first aider permanently on site, and therefore others to provide cover for holidays, sickness or times when the nominated first aider is off-site.

- 7.2 The name of the first aider(s) should be prominently displayed on the outside of the site office.
- 7.3 First aider certificates have a three-year life so further training may become necessary during the life of a contract.
- 7.4 There may be specialised work on site that puts additional pressure on the first aider. This matter should be assessed and resolved before the specialised work commences.
- 7.5 There may be a case for kitting out a dedicated first aid room at the height of the contract when the work force is at its peak.
- 7.6 The nominated first aider should be responsible for:
 - 7.6.1 Restocking the first aid boxes as necessary. Plastic gloves should be included.
 - 7.6.2 Recording accident details in the General Register.
 - 7.6.3 Deciding whether or not a casualty requires treatment from the Ambulance Service, and ensuring that such a telephone call is made.
 - 7.6.4 Making a written report, dated and signed, on what action he took during the treatment of the casualty.
 - 7.6.5 The first aider is also responsible for notifying the Health and Safety Executive of all "three day accidents" and completing the necessary documentation. Refer to Part IV, Section 14 for details on the reporting procedures,

8. **FIRST AID ON SMALL SITES**

It remains the employer's responsibility to provide general first aid cover to his employees and the following guidance may help in the decision as to the type of cover provided.

- 8.1 Company's who make use of supervisors who travel in firm's vehicles to multiple sites should consider training these persons to certificated first aider status,
- 8.2 Company vehicles should carry a fully stocked first aid box.
- 8.3 However, there is a strong case for placing first aid boxes on all sites however large or small.
- 8.4 Accident statistics should be recorded in the General Register, which may be held in the firm's vehicle or in the office, and the employer is responsible for ensuring that "three day accidents" are reported to the Health and Safety Executive, Refer to Part IV, Section 14 for details on the reporting procedures,
- 8.5 A small company should consider providing a number of employees with basic first aid training as part of their legal requirement to train employees. This knowledge could reduce the consequences of a serious accident, even one that occurs off-site to a passing motorist.

PART I

Section 9

1987 Ordinance

Section 14

NOTIFICATION AND REPORTING OF ACCIDENTS, DISEASES AND DANGEROUS OCCURRENCES

9. (1) Subject to section 11, where any person as a result of an accident arising out of or in connection with work, dies or suffers any of the injuries or conditions specified in subsection (2) below or where there is a dangerous occurrence, the responsible person shall

- (a) forthwith notify the Committee thereof by the quickest practicable means; and
- (b) within 7 days send a report thereof to the Committee on a form approved for the purposes of this section.

(2) The injuries and conditions referred to in subsection (1) above are

- (a) fracture of the skull, spine or pelvis;
- (b) fracture of any bone:
 - (i) in the arm or wrist, but not a bone in the hand; or
 - (ii) in the leg or ankle, but not a bone in the foot;
- (c) amputation of:
 - (i) a hand or foot; or
 - (ii) a finger, thumb or toe, or any part thereof if the joint or bone is completely severed;
- (d) the loss of sight of an eye, a penetrating injury to an eye, or a chemical or hot metal burn to an eye;
- (e) 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;
- (f) loss of consciousness resulting from lack of oxygen;
- (g) decompression sickness requiring immediate medical treatment;
- (h) either acute illness requiring medical treatment, or loss of consciousness, resulting in either case from the absorption of any substance by inhalation, ingestion or through the skin;
- (i) acute illness requiring medical treatment where there is reason to believe that this resulted from exposure to a pathogen or infected material;
- (j) any other injury which results in the person injured being admitted immediately into hospital for more than 24 hours.

(3) Subject to section 11, where a person at work is incapacitated for work of a kind which he might reasonably be expected to do, either under his contract of employment, or, if there is no such contract, in the normal course of his work, for more than 3 consecutive days (excluding the day of the accident but including any days which would not have been working days) because of an injury (other than one specified in subsection (2)) resulting from an accident at work the responsible person shall within 7 days of the accident send a report thereof to the Committee on a form approved for the purposes of this section.

(4) Subject to section 11, where an employee, as a result of an accident at work, has suffered an injury or condition reportable under subsection (1) above which is a cause of his death within one year of the date of that accident, the employer shall inform the Committee in writing of the death as soon as it comes to his knowledge, whether or not the accident has been reported under subsection (1) above.

(5) Subject to subsections (6) and (7) below and to section 11, where a person at work suffers from a disease prescribed by regulations made by the Committee and his work involves an activity specified in such regulations the responsible person shall forthwith send a report thereof to the Committee on a form approved for the purposes of this section.

(6) Subsection (5) above shall apply only if:

- (a) in the case of an employee or a person undergoing training, the responsible person has received a written statement prepared by a registered medical practitioner diagnosing the disease as one prescribed under subsection (5) above;
- (b) in the case of a self-employed person, that person has been informed by a registered medical practitioner that he is suffering from a disease so prescribed.

(7) In the case of a self-employed person, it shall be a sufficient compliance with subsection (5) above if that person makes arrangements for the report to be sent to the Committee by some other person.

ACOP

This section of the 1987 Health and Safety at Work (General) (Guernsey) Ordinance places a responsibility on the employer to report to the Health and Safety Executive the death of a worker or certain classifications of injury and/or disease.

THE ACCIDENT HAS TO BE REPORTED

1. Immediately by telephone or the quickest practical means to the HSE Offices (234567) ...
2. and then with the completion and dispatch of the standard accident form available from the HSE offices within 7 days.

THOSE ACCIDENTS WHICH HAVE TO BE REPORTED BY THE EMPLOYER FALL INTO FOUR CATEGORIES

1. The three day accident; in this case the injured employee is not able to return to work three or more days after the accident that caused the injury.
2. Those accidents which normally require hospital treatment and care, and which are listed at the end of this Section.
3. The death of an employee within one year of suffering the injury or condition,
4. A number of diseases contracted whilst employed. These reporting procedures are required under the Health & Safety at Work (Prescribed Diseases) (Guernsey) Regulations, 1987. A list of diseases is shown at the end of this Section.

ACTION TO BE TAKEN FOLLOWING AN ACCIDENT

In the event of an accident on site, management should take action to treat the casualty, make safe the site and ensure that the cause of the accident is identified and removed. The following sequence of action will be appropriate in most cases.

1. Give appropriate first aid and call for the assistance of St John's Ambulance Service.
2. If appropriate, remove the cause of the accident without prejudicing possible legal enquiries.
3. Comply with legal reporting procedures if applicable.
4. Notify senior company management in severe accidents.
5. Take appropriate, dated photographs,
6. Take written, signed, statements from witnesses, have these typed and ensure copies are filed.
7. The Site Supervisor should write an account of the events and the actions taken.
8. Details of the accident should be recorded in the General Register (available at no charge from the Health and Safety Executive offices) or site diary.
Special consideration should be given to the sensitive issue of informing next of kin. Not everyone is capable of giving such information to a close relative.

ACCIDENT REPORT FORM

To provide guidance for employers relating to accident reporting procedures, a blank form is attached at the end of this Section.

It is strongly recommended that only factual details are recorded.

REPORTING A DANGEROUS OCCURRENCE

Dangerous occurrences have the potential to injure persons and damage or destroy plant and, property. They are frequently referred to as near misses.

Employers have a legal responsibility under Sections 9, 10 and 11 of the Guernsey 1987 Ordinance to report certain dangerous occurrences to the Health and Safety Executive.

Those dangerous occurrences likely to occur in the construction industry and which have to be notified to the Health and Safety Executive are listed at the end of this Section.

The Dangerous Occurrence reporting procedure is the same as for reporting accidents described earlier in this Section.

ACCIDENT REPORT FORM

Name of Company:

Site of Accident:

Date and time of accident:

Name of site supervisor:

Description of accident:

Action taken:

Reported to Health & Safety Executive YES/NO Details:

Names of Witnesses. Statements attached YES/NO

Signed: -----

Position: -----

Date: -----

**A LIST OF THOSE ACCIDENTS, WHICH HAVE TO
BE REPORTED TO THE HEALTH AND SAFETY
EXECUTIVE BY THE EMPLOYER**

.....

Death

Fractures of any kind, except to hand and foot Amputation

Serious injury to an eye

Injury resulting from electric shock

Loss of consciousness

Decompression sickness

Acute illness due to absorption of substance

Acute illness due to exposure to a pathogen

Any other injury leading to the casualty being admitted immediately into hospital
for more than 24 hours

A three day or over injury

The death of an employee if this occurs some time after the accident

An employee affected by a number of specific diseases, e.g. poisonings, skin or
lung diseases.

DISEASES CONTRACTED WHILST AT WORK WHICH HAVE TO BE REPORTED TO THE HEALTH AND SAFETY EXECUTIVE

.....

Poisonings
Skin diseases
Lung diseases
Serious infections

A more detailed list is available through the Health and Safety Executive.

REPORTING OF DANGEROUS OCCURRENCES

.....

The following is a list of Dangerous Occurrences, which have to be reported to the Health and Safety Executive.

The collapse or overturning of lifting machinery
Explosion, collapse or bursting of any pressure vessel
Electrical short circuit or overload attended by fire or explosion
Explosion or fire
Escape of flammable substances
Collapse of scaffolding
Collapse or partial collapse of building or structure
Escape of a substance or pathogen
Unintentional explosion of explosives
The bursting, explosion or collapse of a pipeline
Conveyance of dangerous substances by road
Accident involving the wearing of breathing apparatus
Contact with overhead power lines

Certain dangerous occurrences are reportable if a hazardous substance is involved, and this normally involves the movement of substances by road.

Section 15

DUTIES OF EMPLOYEES

PART I

Sections 6,7
and 8

1987 Ordinance

6. It shall be the duty of every employee while at work:

a) to take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions at work; and

(b) as regards any duty or requirement imposed on his employer or any other person by or under any of the relevant statutory provisions, to co-operate with him so far as is necessary to enable that duty or requirement to be performed or complied with,

7. No person shall intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare in pursuance of any of the relevant statutory provisions.

8. No employer shall levy or permit to be levied on any employee of his any charge in respect of anything done or provided in pursuance of any specific requirement of the relevant statutory provisions.

ACOP

1. Whilst the bulk of the Health and Safety at Work (General) (Guernsey) Ordinance 1987 places a general duty of care on the EMPLOYER, there are important paragraphs in this Ordinance which highlight the part that EMPLOYEES have to play in ensuring greater awareness and in promoting health and safety standards in the workplace.

2. The principal references regarding general duties of employees work are contained in Part I, Sections 6 and 7, and can be summarised as follows:-

2.1 The employee has to take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions at work. A list of some considerations is provided but they are only a few examples:-

2.1.1 An employee must comply with any spoken, written or sign-posted instruction to wear the provided head protection, or any other item of personal protective equipment provided for his health or welfare;

2.1.2 If an extinguisher is partly emptied, this fact should be reported to the employer for action;

2.1.3 Removing a scaffold tie from a building is not permitted before reference to the Principal Contractor who should then arrange for the scaffold company to make the necessary alterations;

2.1.4 If a piece of plant is known or found to be defective, it should not be used and the defect should be reported to the employer who will arrange for the necessary repairs;

2.1.5 A hazardous substance should not be used until some instruction is given or without reference to a hazard data sheet;

- 2.1.6 There are countless other examples where an employee is required in law to use his experience and competency to ensure that his own health and safety, and that of those alongside whom he works, is not put at risk. If he is in any doubt, he should discuss the problem with a superior, a supervisor or his employer,
- 2.2 The employee has a duty or a requirement in law to cooperate fully with his employer, or any other person delegated to a position of authority by the employer, with regard to any reasonable request for his work duties. A number of examples are shown below.
 - 2.2.1 It is reasonable for an employee to be asked to work at height providing the access is proper and there is adequate edge protection;
 - 2.2.2 It is reasonable for an employee to be required to work on a trestle platform providing the boards are of sufficient strength, sufficient width, adequately supported at appropriate distances and guard railed if the platform is over 2 metres high;
 - 2.2.3 It is reasonable for an employee to be required to lift heavy weights if the access is level and free of debris, if mechanical means are not available, and if he has received training in lifting techniques;
 - 2.2.4 It is reasonable for an employee to be a member of a demolition gang if the employer has ensured that all services have been disconnected, the system and sequence for demolition is defined in the Method Statement, the Method Statement has been explained to the demolition gang and all necessary personal protective equipment has been provided;
 - 2.2.5 There are numerous other examples that could be created to explain the general duty that the employee has towards instructions provided by the employer.
- 2.3 The Ordinance also states quite clearly that no person shall intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare,
 - 2.3.1 The law places a general duty on the employer to provide a safe working environment, and the employee has to recognise this fact and do nothing which may deliberately compromise safety in the workplace. Horseplay, ignoring safety signs and instructions, deliberately damaging plant and personal protective equipment and other examples of foolish and reckless behaviour have no place on a building site of any size;
 - 2.3.2 The employee should be aware that behaviour such as that outlined in 2.3.1 above could lead to their prosecution for a breach of the law. At present conviction in the Magistrates Court can attract a fine of up to 22,000 whilst Royal Court fines are unlimited.

Section 16

REQUIREMENT & PROHIBITIONS ON CONTRACTORS

PART I
Section 1(1)
1987 Ordinance

ACOP

1. (1) It shall be the duty of every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all his employees.
1. In relation to all construction work or projects which fall within the scope defined in Part 1, Section 3 of this ACOP, every contractor must:-
 - 1.1 Co-operate with the Principal Contractor so that both parties are able to comply with their duties under the relevant statutory provisions.
 - 1.2 Provide the Principal Contractor with all information in his possession (including risk assessments), which might affect the health and safety of persons carrying out the work.
 - 1.3 Comply with directions given to him by the Principal Contractor.
 - 1.4 Comply with all rules or directions applicable to him within the Safety Plan.
 - 1.5 Immediately notify the Principal Contractor of any death, reportable accident or dangerous occurrence.
2. No contractor should permit any employee to work on a project falling within the scope defined in Part I, Section 3 of this ACOP, unless he has been provided with the following information:-
 - 2.1 The name and contact details of the Principal Contractor.
 - 2.2 Identification of the safety consultant for the Project.
 - 2.3 A copy of the Safety Plan or such part of it as is relevant to his works.

Section 17(1)

ENFORCEMENT AND POWERS OF THE HEALTH & SAFETY EXECUTIVE, AND THE BOARD

PART I
Section 16
1987 Ordinance

16. (1) Subject to the provisions of this section, an inspector may, for the purpose of carrying into effect any of the relevant statutory provisions, exercise the powers set out in the next following subsection.
- (2) The powers of an inspector referred to in subsection (1) above are the following, namely
 - (a) at any reasonable time (or, in a situation which in his opinion is or may be dangerous, at any time) to enter any premises which he has reason to

- believe it is necessary for him to enter for the purpose of carrying into effect any of the relevant statutory provisions;
- (b) to take with him an officer of police, if he has reasonable cause to apprehend any serious obstruction in the execution of his duty;
 - (c) without prejudice to the last foregoing paragraph, on entering any premises by virtue of paragraph (a) above to take with him
 - (i) any other person duly authorised in that behalf by the Committee; and
 - (ii) any equipment or materials required for any purpose for which the power of entry is being exercised;
 - (d) to make such examination and investigation as may in any circumstances be necessary for the purpose of carrying into effect any of the relevant statutory provisions.
 - (e) as regards any premises which he has power to enter to direct that those premises or any part of them, or anything therein, shall be left undisturbed (whether generally or in particular respects) for so long as is reasonably necessary for the purpose of any examination or investigation under the last foregoing paragraph;
 - (f) to take such measurements and photographs and make such recordings as he considers necessary for the purpose of any examination or investigation under paragraph (d) above;
 - (g) to take samples of any articles or substances found in any premises which he has power to enter, and of the atmosphere in or in the vicinity of any such premises;
 - (h) in the case of any article or substance found in any premises which he has power to enter, being an article or substance which appears to him to have caused or to be likely to cause danger to health or safety, to cause it to be dismantled or subjected to any process or test (but not so as to damage or destroy it unless this is in the circumstances necessary for the purpose of carrying into effect any of the relevant statutory provisions);
 - (j) in the case of any such article or substance as is mentioned in the last foregoing paragraph, to take possession of it and detain it for so long as is necessary for all or any of the following purposes, namely:
 - (i) to examine it and do to it anything which he has power to do under that paragraph;
 - (ii) to ensure that it is not tampered with before his examination of it is completed;
 - (iii) to ensure that it is available for use as evidence in any proceedings for an offence under any of the relevant statutory provisions or any proceedings relating to a notice under section 18 or 19 of this Ordinance;
 - (k) to require any person whom he has reasonable cause to believe to be able to give any information relevant to any examination or investigation under paragraph (d) above to answer (in the absence of persons other than a person nominated by him to be present and any persons whom the inspector may allow to be present) such questions as the inspector thinks fit to ask and to sign a declaration of the truth of his answers;
 - (l) to require the production of, inspect, and take copies of or of any entry in
 - (i) any books or documents which by virtue of any of the relevant statutory provisions are required to be kept; and
 - (ii) any other books or documents, which it is necessary for him to see for the purposes of any examination or investigation under paragraph (d) above;
 - (m) to require any person to afford him such facilities and assistance with respect to any matters or things within that person's control, or in relation to which that person has responsibilities, as are necessary to enable the inspector to exercise any of the powers conferred on him by this section;
 - (n) any other power, which is necessary for the purpose of carrying into effect any of the relevant statutory provisions.

(3) Where an inspector proposes to exercise the power conferred by subsection (2)(h) above in the case of an article or substance found in any premises, he shall, if so requested by a person who at the time is present in and has

responsibilities in relation to those premises, cause anything which is to be done by virtue of that power to be done in the presence of that person, unless the inspector considers that its being done in that person's presence would be prejudicial to public safety.

(4) Before exercising the power conferred by subsection (2)(h) above in the case of any article or substance, an inspector shall consult such persons as appear to him appropriate for the purpose of ascertaining what dangers, if any, there may be in doing anything which he proposes to do under that power.

(5) Where under the power conferred by sub-section (2)(j) above an inspector takes possession of any article or substance found in any premises, he shall leave there, either with a responsible person or, if that is impracticable, fixed in a conspicuous position, a notice giving particulars of that article or substance sufficient to identify it and stating that he has taken possession of it under that power; and before taking possession of any such substance under that power an inspector shall, if it is practicable for him to do so, take a sample thereof and give to a responsible person at the premises a portion of the sample marked in a manner sufficient to identify it.

(6) No answer given by a person in pursuance of a requirement imposed under subsection (2)(k) above shall be admissible in evidence against that person or the husband or wife of that person in any proceedings.

(7) Nothing in this section shall be taken to compel the production by any person of a document of which he would, on grounds of legal professional privilege, be entitled to withhold production in any action in the Ordinary Court.

ACOP

The Health and Safety Executive has powers to require improvement in working standards to be made to a declared time scale or to stop work until improvements have been made.

The Inspector has the right to:

1. Visit any site at any reasonable time to make examinations, investigations, take samples, photographs or recordings.
2. Take a policeman onto any site if he is of the belief that he may be obstructed in doing his work.
3. Also take onto site any other person authorised by the Board.
4. If at the time of their visit Inspectors identify a situation or piece of plant or equipment, which is considered a danger to health and safety they can cause it to be made safe or dismantled.
5. Inspectors can take possession of books or documents and require the employer to make available the necessary facilities or assistance which might prove necessary in performing their duty.
6. Inspectors can take possession and remove from site any article, which might be a danger to health and safety,
7. In the event of a serious accident, the Board has the power to appoint an investigating committee. This committee has all the powers of an Inspector, and the committee is empowered to make public their report.

Section 17(2)

IMPROVEMENT AND PROHIBITION NOTICES

PART III

Sections 18 and
19

1987 Ordinance

18. If the Committee is of the opinion that a person
- (a) is contravening one or more of the relevant statutory provisions; or
 - (b) has contravened one or more of those provisions in circumstances that make it likely that the contravention will continue or be repeated;

the Committee may serve on him a notice (in this Ordinance referred to as "an improvement notice") stating that it is of that opinion, specifying the provision or provisions as to which it is of that opinion, giving particulars of the reasons why it is of that opinion, and requiring that person to remedy the contravention or, as the case may be, the matters occasioning the contravention within such period (ending not earlier than the period within which an appeal against the notice can be brought under section 21 of this Ordinance) as may be specified in the notice.

19. (1) This section applies to any activities which are being, or are likely to be, carried on by or under the control of any person, being activities to or in relation to which any of the relevant statutory provisions apply or will, if the activities are so carried on, apply.

(2) If as regards any activities to which this section applies an inspector is of the opinion that, as carried on, or likely to be carried on, by or under the control of the person in question, the activities involve or, as the case may be, will involve a risk of serious personal injury, the inspector may serve on that person a notice (in this Ordinance referred to as "a prohibition notice").

- (3) A prohibition notice shall
- (a) state that the inspector is of the said opinion;
 - (b) specify the matters which in his opinion give or, as the case may be, will give rise to the said risk;
 - (c) where in his opinion any of those matters involves or, as the case may be, will involve a contravention of any of the relevant statutory provisions, state that he is of that opinion, specify the provision or provisions as to which he is of that opinion, and give particulars of the reasons why he is of that opinion; and
 - (d) direct that the activities to which the notice relates shall not be carried on by or under the control of the person on whom the notice is served unless the matters specified in the notice in pursuance of paragraph (b) above and any associated contraventions of provisions so specified in pursuance of paragraph (c) above have been remedied.

(4) Subject to the provisions of the next following subsection, a direction contained in a prohibition notice in pursuance of paragraph (d) of the last foregoing subsection or of the next following section shall not take effect unless it is confirmed by the Committee by a notice served by the Committee on the person on whom the prohibition notice containing the direction has been served; and in that event the direction shall have effect:

- (a) at the end of the period specified by the Committee in the notice under this subsection; and
- (b) subject to such modifications, if any, as the Committee thinks fit and states in that notice.

(5) A direction given in pursuance of subsection (3)(d) above shall take immediate effect if the inspector is of the opinion, and states it in the prohibition notice containing the direction, that the risk of serious personal injury is or, as the case may be, will be imminent, but the direction shall cease to have effect at the expiration of the seventy-two hours next following the day on which the

prohibition notice was served unless it is confirmed by the Committee by a notice previously served by the Committee under and in accordance with the provisions of the last foregoing subsection.

ACOP

1. In the event of a contravention of the employer's legal duty of care, the Inspector may under the law issue an Improvement Notice which will be written and will specify the remedial work that has to be undertaken and the timescale for such work.
2. In more severe cases the Inspector may, under the law, issue a Prohibition Notice where life and limb are immediately threatened. The Notice may include directions indicating the necessary remedial action. The effect of the Prohibition Notice is to stop work on the relevant activity until the specified remedial work has been completed.
3. An Inspector may, under the law, withdraw the Notice before the expiry of the time scale or extend the period of the Notice,

APPEALS AGAINST PROHIBITION. AND IMPROVEMENT NOTICES

1. The person against whom the Improvement or Prohibition Notice is issued may appeal against the Notice,
2. In the case of the Improvement Notice, the case will be heard by the Ordinary Court within twenty-one days. Until the appeal is determined the Notice remains in force. If no appeal is made within the specified number of days then the Notice is not subject to appeal and the defendant becomes liable to a fine if he does not comply with the provisions of the Notice,
3. In the case of the Prohibition Notice, the appeal will be heard as soon as the Court can be convened. Work will not recommence until either the Notice is lifted or the Court has made its decision.
4. Following the issuing of a Prohibition Notice, the Board must confirm the issuing of the notice in writing within 72 hours,

Section 18

APPENDICES

APPENDIX 1

THE PRINCIPLES OF PREVENTION AND PROTECTION

The principles of prevention and protection are:

- (a) **If possible, avoid the risk completely**, by using alternative methods or materials.
- (b) **Combat risks at source**, rather than by measures, which leave the risk in place but attempt to prevent contact with the risk.
- (c) **Wherever possible, adapt work to the individual**, particularly in the choice of work equipment and methods of work. This will make work less monotonous and improve concentration, and reduce the temptation to improvise equipment and methods.
- (d) **Take advantage of technological progress**, which often offers opportunities for safer and more efficient working methods.
- (e) **Incorporate the prevention measures into a coherent plan** to reduce progressively those risks which cannot altogether be avoided and which takes into account working conditions, organisational factors, the working environment and social factors. On individual projects, the Safety Plan will act as the focus for bringing together and co-ordinating the individual policies of everyone involved. Where an employer is required under Part 1 Section 1 (3) of the 1987 Ordinance to have a health and safety policy, this should be prepared and applied by reference to these principles.
- (f) **Give priority to those measures which protect the whole workforce or activity** and so yield the greatest benefit, i.e. give collective protective measures, such as suitable working platforms with edge protection, priority over individual measures, such as safety harnesses.
- (g) **Employees and the self-employed need to understand what they need to do**, e.g. by training, instruction, and communication of plans and risk assessments.
- (h) **The existence of an active safety culture affecting the organisations responsible for developing and executing the project needs to be assured.**

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APPENDICES

APPENDIX 2

COMPETENCY CRITERIA FOR SPECIFIC ACTIVITIES

1. Safety manager/adviser	Possession of professional safety qualifications. Minimum: National Certificate (NEBOSH). Preferred Diploma (NEBOSH) Diploma of Safety Management. Plus 5 years practical experience of on the job safety inspection.
2. Safety consultants	Bona fide registered company employing safety professionals with NEBOSH qualifications to provide health & safety advice.
3. Safety Co-ordinator	Senior member of Construction Management team e.g. Site Agent, Manager, Engineer, Clerk of Works or Safety Manager
4. Mounting of abrasive wheels	Certificate of competency issued by relevant training wheels organisation.
5. Asbestos survey	Safety consultant with specific experience in asbestos industry and building products.
6. Air testing of asbestos	Registered hygienist preferably operating from NAMAS accredited laboratory
7. Inspection of hoists, cranes, lifting gear	Qualified engineer employed by a specialist testing organisation or insurance company.
8. Inspection of pressure vessels and systems	Qualified engineer employed by a specialist testing organization or insurance company.
9. Banksman/Slinger	Certificate of competency issued by relevant training organization.
10. Plant operator	Certificate of competency issued by relevant training organization.
11. Gas/atmospheric testing	Registered hygienist preferably operating from NAMAS approved laboratory.
12. Specific atmospheric testing for CO or CO ₂ /lack of O ₂ testing.	Certificate of competency issued by relevant training organization.

13. Demolition method statements	Normally qualified civil engineer with over 5 years specific experience in demolition work.
14. Electrical Inspections	Qualified electrical engineer.
15. Electrician	A person who has served an approved apprenticeship and has obtained the CGL1 2360 part 1 certificate and NVQ level 2, or relevant industrial electrical installation experience.
16. Approved Electrician	A person who has a minimum of four years electrical installation experience and has obtained CGL1 2360 part 2 certificate and NVQ level 3, or equivalent industrial electrical installation experience.
17. Excavation - method Statement	Qualified civil engineer with over 5 years specific experience in excavation practice.
18. Method statement for explosive work	Minimum requirements are that the person holds a Shot Firing certificate or is a member of the Institute of Explosive Engineers.
19. Weekly inspections – cranes	Trained crane operator or specialist engineer / consultant.
20. Noise surveys, risk assessment of noise levels. Selection of appropriate PPE for hearing protection	Industrial / occupational hygienist or Qualified adviser trained by suitable organisation.
21. Inspection of breathing apparatus	Certificate of competency issued by relevant training organisation.
22. Scaffold erection and inspections	Certificate of competency from CITB approved or relevant training organisation.
23. Method statements for steel erection	Qualified Civil Engineer or Architect with experience in design and construction of steel structures.
24. First aider	Relevant current certificate from approved First Aid training establishment, e.g. St Johns Ambulance.

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APPENDICES

APPENDIX 3

TRAINING ORGANISATION

These fall into five categories. At present these are:

1. The College of Further Education

Building Study courses offered at present include:

Building Studies for Technologists
Construction Studies for Site Supervisors
Electrical Installation
Carpentry and Joinery - Site Practice and Purpose Made Joinery
Plumbing and Heating
Blocklaying, Plastering and Concreting
Painting and Decorating

The College offers Block Release, Part-time day and evening courses and one-off courses such as:

Scaffold Safety Inspection Certificate of Competence
Woodworking Machine Regulations
Abrasive Wheels Regulations
Ballistic Tools Operators Certificate
Electrical Installation Regulations.

All of which are subject to demand and are designed to meet the needs of the customer.

2. The private sector in Guernsey

2.1 Normandie Health & Safety Limited.

At present the company offers courses on such subjects as Scaffolding inspection, rough terrain truck operation, asbestos identification and removal, Safety Management, Risk Assessment, VDU Safety, Abrasive Wheels, and NEBOSH courses.

2.2 Double Plus Software Limited

The company specialises in technology-based training and can offer training courses on computer diskette, CD-ROM and Video (from UK publishers) for use in the office, at home, or as part of another course. It can also develop these training materials with information relating to local conditions where there is a requirement.

3. Training organisations in the United Kingdom

- 3.1 Institution of Occupational Safety and Health
- 3.2 Royal Society for the Prevention of Accidents
- 3.3 British Safety Council
- 3.4 Construction Industry Training Board

4. Over a number of years the Board (Health and Safety Executive) has built up a considerable resource of guidance, information and educational material. The purchase of Silver Platters OSH - ROM UK, a CD based computer information system, has further enhanced the availability of a wide range of material. This includes all of the Health and Safety Executive guidance, Codes of Practice, extracts from relevant specialist British Standards, journals and reports.

A video library of some sixty titles is available to employers on free loan.

The Health and Safety Executive constantly update and renew their information and guidance material bank.

5. There is a good deal of literature available on a wide range of health and safety topics. Some is available for purchase through the Guernsey Health and Safety Executive, some through the HSE Bookshop, some through libraries, and other books on a wide range of topics through retail outlets.
6. For information on the full range of first aid courses, application should be made to the St John Ambulance and Rescue Service.