Demolition
Safe Working Practices

All demolition work is covered by the Construction, Design and Management Regulations (see Selection and Management of Contractors) and as such is notifiable to the HSE. The following guidelines are issued for information of Managers:

TENDERING

1. **Provision of Information**

Demolition contractors must be provided with sufficient information on which to base their tenders. Clients should ensure that details are prepared of the construction and previous use of premises so that a suitable method of demolition may be chosen and appropriate precautions taken in the event of the presence of hazardous substances. If the building in question has lain idle for a period and such information is not readily available, it should be obtained by means of a structural survey and, where necessary, the services of a competent analyst.

2. **Demolition of Survey**

Prospective contractors must ensure that the information with which they are provided is sufficiently detailed to allow identification of any structural problems and the risks associated with any flammable or hazardous substance. Contractors should be permitted access to the whole site to make an initial survey on which to base their outline method statement, covering the precautions to combat any hazards and their preferred demolition procedure.

3. **Preferred Method of Work**

Demolition should, when possible, involve methods which make it necessary for persons to work at heights. If this cannot be achieved, methods such as a deliberate controlled collapse, which minimises work at heights and limits exposure to such danger should be employed.

The use of a balling machine, heavy duty grab, pusher arm or shears, can make working at heights unnecessary, but the contractor must ensure that sufficient area is available for their safe use and that the equipment is capable of performing the required duty.

Other demolition methods will involve work at heights to some extent and contractors must ensure that when work cannot be safely carried out from part of the building or structure, working platforms are provided. Such platforms can be made up from tube and fittings or proprietary systems, or can be provided by means of man-riding skips or mobile power-operated work platforms. Where it is not practicable to provide such platforms, safety nets or safety harnesses should be used.

The outline method statement should include details of appropriate measures to ensure safe working at heights.

4. **Safe Method of Work**
A detailed statement should be prepared outlining the safe Method of Work to be used. The statement should be agreed by site management and understood, not only by employees of the demolition contractor, but by supervisors of other contractors, and should include such matters as:-

- the sequence and method of demolition, with details on means of access, working platforms and plant and equipment requirements;
- specific details of any pre-weakening of structures, or use of explosive;
- arrangements for the protection of persons employed on site and members of the public;
- details of the removal or making safe of electric, gas or other services;
- details of temporary services which are available, or will be required.
- methods of dealing with flammable materials and gases which may remain from previous processes or storage;
- methods of determining the presence of hazardous substances, the means of disposal of such substances and the requirements for any protective equipment;
- arrangements for controlling transport used for the removal of waste; and
- identifying persons with special responsibilities for the control and co-ordination safety arrangements.

5. **Protection of the Public**
Demolition is frequently carried out in heavily populated areas and particularly high standards of site protection, safe systems of work and effective supervision are therefore needed.

6. **Overhead and Underground Services**
The survey should have identified the possible presence of any services and enquiries to obtain more detailed information and assistance will have been made.

7. **Temporary Services**
Reduced voltage, i.e. 110, with a centre point earth connection, should be used where possible. Temporary supplies should be installed to the same standard as for other construction activities.

8. **Flammable Materials and Gases**
Where existing plant has contained flammable materials, special precautions must be observed in order to avoid fire or explosion. The assistance of a competent analyst may be required to identify residues, carry out monitoring and assess whether pockets of contamination remain.

Where it is necessary to enter plant for cleaning or assessment purposes, the use of breathing apparatus may be required, and a strict permit-to-work system should be employed.

9. **Sequence of Demolition**
Asbestos or other toxic waste should be removed before starting to demolish any structure.
The stability of a structure depends on the interaction of its component parts. An incorrect sequence in the removal of these parts can result in a premature and unplanned collapse.

10. **Restricted Areas and Safe Distances**

Areas affected by each phase of work, to which access will need to be restricted or made safe, should be set out in the method statement. Restrictions and control may be necessary during:-

- the dropping of debris;
- the operation of demolition plant;
- pre-weakening activities;
- deliberate collapse or pulling over of buildings; and
- the use of explosives.

11. **Health Hazards**

Health hazards in demolition arise primarily from substances which are inhaled or ingested, or which can react with or be absorbed through the skin. Noise and vibration are also hazardous to health.

In the case of airborne contaminants, HSE Guidance Note EH40 (revised annually), gives "occupation exposure limits" and, where applicable, "short term exposure limits", for many common substances. In demolition, it may not be practicable to control these hazards by means such as exhaust ventilation and emphasis should therefore be placed on the following:-

- using processes which do not generate hazardous dust and fumes;
- segregation of workers;
- operating work permit systems to reduce the numbers exposed to risk;
- ensuring that suitable personal protective equipment is provided and used; and
- ensuring that airborne hazards do not escape from the site to affect members of the public.

12. **Training and Competence**

The importance of adequate training in the demolition industry has been recognised by the introduction of the "Scheme for the Certification of Competence of Demolition Operatives".

The scheme, which aims to ensure that all certificated demolition operatives have attained acceptable standards of skill and safety awareness, is administered by CITB and applies to all operatives employed under the National Working Rule of the Demolition Industry Conciliation Board. A Certificate of Competence (C of C) in the category of "Labourer", "Mattockman" or "Topman" is issued on completion of training and successful demonstration of competence in the relevant category.