Safe Working in Confined Spaces:

Introduction:

Most serious injuries and deaths in confined spaces occur because persons are unaware that they are working within what is defined as a confined space and that working in such spaces significantly heightens the risks to personal health and safety. Or, often it is unknown that there is a problem within the space (e.g. hazardous atmosphere, heart attack) and when discovered it is too late to effect an evacuation of the worker in time to save his/her life. Consequently additional specific risk assessment requires to be undertaken in cases of confined space working and special control measures put in place.

Working in confined spaces is a hazardous task, with an average of 15 deaths per year in such situations. Some of these deaths have occurred in areas that one may not normally think of as confined spaces (e.g. sewers), but have occurred in areas that would normally be thought of as safe (e.g. a room), a combination of the work being carried out and the confines of the room, rendering it a confined space. Also, the victims have not all been members of a work section that one may normally associate with confined space (i.e. trades persons) but have include persons on field trips and technical workers.

Examples of Confined Space Accidents:

Four employees working in a duct were killed when a highly explosive gas leaked from a faulty valve into the space in which they were working. Neither they nor the supervisor outside the space knew of this, only the fire and explosion warned the supervisor that there was a problem, it was too late to warn the workers.

A flooring contractor was found semi-comatose in an unventilated room where had been working laying vinyl flooring and using a solvent-based adhesive. He had become so used to the odour of the solvent that he was no longer aware of it, consequently he did not notice the build up in vapour concentration until the narcotic effects rendered him unable to make an exit from the room.

An employee was killed when he entered a liquid nitrogen storage room where a valve had been leaking for some time. The nitrogen gas had depleted the oxygen within the small room and he was rendered almost instantly unconscious, death following soon afterwards. A colleague who found him and tried to effect a rescue also suffered from the effects of oxygen depletion and was lucky not to suffer the same fate.

An Australian Health Authority issued a warning about working in poorly ventilated workplaces, following a recent incident in which seven men suffering from carbon monoxide poisoning were hospitalised. The casual workers had been re-packing pallets, when they all started feeling sick.

Investigations revealed the cause to be carbon monoxide coming from an LPG forklift which had not been tuned properly.

What is a Confined Space?

The definition of a "confined space" in the Confined Spaces Regulations 1997 is very wide and includes any place such as trenches, chambers, silos, pits, sewers, wells, or any other similar spaces which because of their nature could give rise to a "specified risk".

There are two features that define a confined space. First, it is a space that is substantially (though not necessarily entirely) closed and, second, there is a foreseeable risk to health or safety from hazardous substances or conditions within the space or nearby.

What is a Specified Risk?

"Specified risk" means a risk of injury from fire or explosion, loss of consciousness arising from increased body temperature; loss of consciousness or asphyxiation arising from gas, fume, vapour or the lack of oxygen; drowning; asphyxiation arising from a free flowing solid; or entrapment by a free flowing solid.

The hazards of confined spaces arise because of the confined nature of the workplace and the presence of conditions or substances which, when taken together, increase risk to health and safety.

Some confined spaces are easy to identify e.g. closed tanks or sewers; others are less obvious but just as dangerous e.g. open topped tanks, closed and unventilated or inadequately ventilated rooms, silos, or constructions that may become confined spaces during their construction.

Also, some places will fall into the definition of a confined space only occasionally, perhaps due to the type of work being undertaken e.g. a room during spray painting or where solvent based glues are being used, roof spaces or cellars where hot work using naked flames is undertaken. It should be remembered that a hazard can be introduced to a space that otherwise would be safe.

Confined Spaces in this University:

It may appear at first sight that any confined space work undertaken in this University will fall under the remit of the Estates and Buildings Department, it may be true that most of the obvious examples such as manholes, services ducts, interiors of plant and enclosed plant rooms undoubtedly will. Work in these areas is mainly for the purpose of maintenance such work being performed by personnel from Estates and Buildings (either University employees themselves or employees of outside contractors brought in to work for us). For some of this work, all the precautions described in this guidance are necessary. Estates & Buildings have extensive procedures to cover all

reasonably foreseeable eventualities, the ramifications of which go beyond what can easily be covered in general guidance such as this.

However, the Health and Safety Commission, in Guidance to the Regulations, point out that the expression "confined space" and application of the Regulations may well apply, dependent on the presence of a foreseeable risk of injury, to the following examples and other similar places: ducts, vessels, culverts, tunnels, boreholes, trenches, shafts, inspection pits, building voids, cellars, interiors of plant, machines or vehicles, etc.

It can be seen therefore that some academic Departments may well pursue research or teaching which falls within the remit of the Regulations. Such Departments that immediately spring to mind are; Archaeology, Geology and Geophysics, Computing Services, Electrical Engineering and the Schools of Civil and Mechanical Engineering but there may well be others. This guidance will, therefore, describe in general terms what the Regulations require, and what all University departments have to do both to comply with the Regulations and to ensure safety. It is strongly recommended that any department (Works Division excepted) which is contemplating work in confined spaces discuss their proposals with staff at the University's Health and Safety Department, having first carried out a full risk assessment.

Responsibility:

As the employer, the University Court bears primary responsibility for compliance with the substantive requirements of the Regulations.

The University Court delegates the responsibility for the management of health and safety matters, within the area of the University under their control, to Heads of School/Unit. Heads of School/Unit within whose area of responsibility confined space work is carried out (within or beneath University premises or remote from the campuses but under the Schools auspices) require to:-

- ensure that such activities are planned and managed in compliance with the Confined Spaces Regulations 1997, and are carried out in a safe manner;
- ensure that their local Departmental Health and Safety Policy includes procedures on entry into and work within confined spaces and in particular that this ensures that suitable and sufficient risk assessments are completed, a process which ought to entail a full description of the proposed control strategy for the work envisaged;
- provide the Director of the Health and Safety, or other members of that Department, when requested, with information about the nature and control of such activities, to allow that person to determine the degree of the University's compliance with the law, and;
- act promptly on any remedial action or improvements required.

Aide memoir for Heads of Department to help ensure compliance with the Regulations:

- Have you identified all the work involving confined spaces which members of your School/Unit could be engaged in?
- Are you satisfied that entry to confined spaces within the control of your Department is effectively precluded unless entry is unavoidable for the purposes of duly authorised research, teaching or maintenance?
- Has your staff formulated suitable risk assessments for work involving confined spaces?
- Has an effective statement of policy on work involving confined spaces been included in your School/Unit's local Health and Safety Policy?
- Are the control measures for the work appropriate, suitable and sufficient?
- Are those involved in the proposed work trained to a level appropriate to their responsibilities?
- Has an appropriate emergency plan been prepared for each entry into a confined space, and communicated to all those involved?

It is the responsibility of each member of staff who plans, organises or otherwise leads research, teaching or maintenance work which could involve entry into or work within confined spaces to:-

- Prevent such entry wherever this is reasonably practicable;
- Where entry into a confined space cannot be avoided, ensure that all the relevant requirements of the law are adhered to, as described in this guidance, and in their School/Unit Health and Safety Policy. This is likely to entail:-
- Preparing a risk assessment for the proposed work;
- Ensuring that a suitable safe system of work has been devised;
- Ensuring that those involved are suitably trained and supervised;
- Ensuring that there are appropriate emergency procedures in place.
- Comply with School/Unit requirements on the technical and managerial monitoring of such activities, and;
- Provide such information as may be requested on the nature and safe management of such activities.

Aide memoir for academic and administrative personnel directly involved in planning, leading or organising work in confined spaces:

- Do you effectively preclude unauthorised entry to confined spaces that are within your control?
- Are you familiar with the requirements of your School/Unit's local Health and Safety Policy as regards safe entry into, and work within, confined spaces?
- Have you completed suitable risk assessments for any work involving entry into any confined space that is within your control?
- Have you received risk assessments from any third party who controls a confined space remote from the University campus?

- Are you satisfied that the control measures outlined in these risk assessments accurately reflect the degree of risk likely to be encountered by those entering the confined space?
- Have the staff and/or students who will be entering the confined space received appropriate information and training? Have arrangements been made for the supervision of the inexperienced?
- Have you recorded and communicated the results of the risk assessment to the appropriate personnel?

It is the responsibility of individual members of staff whose work requires them to enter into or work in a confined space to:-

- Adhere rigorously to the requirements of any work permit issued to them, or any verbal instruction from a supervisor or manager, about entry into or work within any confined space;
- Use any personal protective or work equipment issued to them in a proper manner (and report any defects in such equipment), and;
- Take all reasonable steps to ensure the health and safety of themselves and others when entering or working in a confined space.

It is the responsibility of any student whose studies require them to undertake entry into or work within a confined space to:-

- Refrain from entering into any confined space unless the work has been duly authorised in their School/Unit, and;
- Rigorously and conscientiously follow any safety instruction issued to them by the academic staff member in charge of the class (or his agent).

The Confined Spaces Regulations 1997 place substantial duties on the University to prevent or safely control entry into, or work within, confined spaces. In law, both the confining nature of the space and the foreseeable risk of injury from a specified risk define a confined space. Having identified where such situations could occur, it is vital to prevent unnecessary entry into confined spaces: if the desired result can be achieved without entry, then this must be what happens. If entry is unavoidable, then risks to those entering must be rigorously guarded against by a combination of technical and managerial procedures, up to and including a full formal Permit to Work system. The strategy for the control of risks must be the result of a risk assessment.

Risk Assessment:

The Management of Health and Safety at Work Regulations 1992

The management of Health and Safety at Work Regulations apply equally across all industries and all work activities. The main duty requires all employers and self-employed persons to carry out a suitable and sufficient assessment of all risks to workers and any others who might be affected by their work activities (insignificant risks can be ignored). This is for the purpose of identifying the measures he needs to take to comply with the requirements

and prohibitions imposed upon him by or under relevant statutory provisions. In essence this is a requirement to, wherever possible remove the risk entirely, or where this is not practicable reduce and control the risk to the lowest level that is reasonably practicable.

A hazard is an inherent property of a location, tool, substance or system of work which can cause harm (e.g. chemicals, electricity, working with ladders); the risk is the probability that someone will be harmed by a property of the hazard, and how badly.

Risk assessment is carried out by;

- Identifying the hazards that are present in any work situation, then;
- Assessing the risk from those hazards, then;
- Reducing and controlling the risk to as low a level as practically possible, then;
- Recording the decisions and ensuring that those working with the hazard are aware of any control measures that require to be taken or safe systems of work that must be followed (it is best to write this down), then;
- Ensure that if the work or any part of the situation changes the risk assessment is reviewed.

The Confined Spaces Regulations 1997

The Confined Spaces Regulations require that when carrying out a risk assessment priority is given to identifying the measures that require to be taken so that work in confined spaces can be avoided.

If it is not reasonably practical to prevent work in a confined space the employer or person in control of the work will be need to assess the risk connected with entering or working in the space. This will include identifying the risks to those entering or working there, and also any others, for example, other workers, including contractors, and the general public in the vicinity who could be affected by the work to undertaken. This assessment should lead to a safe system of work being put in place, this should lay out how the work is to be carried out in a safe manner, ensuring that all the risks are controlled to the lowest level reasonably practical, and that emergency procedures have been thought about and put in place. Assessment upon which a safe system of work is to be based must be carried out by those competent to do so.

A competent person is someone with sufficient experience of, and familiarity with, the relevant processes, plant and equipment so that they understand the risks involved and can devise the necessary precautions to meet the requirements of the regulations. In complex cases more than one person may be needed to conduct an assessment of risks, this especially if specific areas of risk require specialist expertise.

In cases where a number of confined spaces (e.g. sewers or manholes) are roughly the same in terms of conditions and the activities being carried out,

and if the risks and measures required to deal with them are likewise roughly the same, it maybe be possible to devise a Generic Risk Assessment covering them all. However, any differences in particular cases that would alter the conclusions of a Generic Risk Assessment must be identified. Failure to include relevant information within the risk assessment could lead to inadequate precautions being applied in the subsequent safe system of work.

Likely Hazards:

The following list highlights many of the hazards that are likely to be encountered in a confined space, it should be remembered that this list is not exhaustive.

- The confines of the space itself, preventing ease of egress;
- Flammable substances, from the contents of the space, leaks from services running through the confined space or a nearby area;
- Oxygen enrichment, e.g. from leaking welding cylinders;
- Ignition of contaminants in the air;
- Sludge or fumes remaining in the space from previous processes or contents, when disturbed these may release toxic or flammable substances;
- Oxygen deficiency, from inert gas purging, biological processes such as rusting, decomposition or fermentation, processes such as welding or workers breathing within the space;
- Liquids or solid materials, which can flow, entering the space from elsewhere, this may cause drowning or entrapment;
- Heat exhaustion, caused by working in the confined space or from nearby hot processes.

Aide memoir of factors to be assessed:

- The general situation and condition of the confined space: the risks that maybe present can cause a problem e.g. abnormal oxygen concentration;
- The previous contents of the space: fire and explosions have been caused by ignition of substance thought to have been removed some considerable time before;
- Residues: dangerous gas, fume or vapour can be released when scale, sludge or animal slurry is disturbed. Where residues are present, safe working practices should assume that disturbance of such residue will release gas, fume or vapour;
- Contamination: may arise from adjacent plant, gas mains, processes or surrounding land, soil or strata. Gases and liquids can leak into the confined spaces from adjacent plant, installations, processes or landfill sites. There is a particular risk of contamination if confined spaces are below ground because they can be contaminated by substances from installations many metres away;
- Oxygen deficiency and oxygen enrichment: if the concentration of oxygen in the atmosphere varies significantly from normal (20.8%) there are substantial risks. e.g. oxygen enrichment will increase

flammability of clothing and other combustibles. Conversely, a small reduction in the oxygen percentage can lead to impaired mental ability. Effects are very rapid and generally there is no warning to alert the senses. This can happen in circumstances where only a person's head is inside the confined space. Very low oxygen concentrations (below 16%) can lead to unconsciousness and death;

- Physical dimensions: air quality can differ if the space contains remote or low lying compartments, and dimensions of the space may place constraints on egress, access and rescue;
- Work process: the work itself may produce the hazard. Alternatively, conditions may become hazardous when work is carried out in conjunction with residues etc. Work being done outwith the confined space could also generate hazard conditions within (e.g. external welding).

Hazards may be introduced into a space that may be otherwise safe; chemical used for cleaning purposes may affect the atmosphere directly or they may interact with residual substances present.

Welding or cutting could act as a source of ignition of flammable gases, vapours, dusts, plastics and other materials which may burn thus leading to a fire or explosion. Tools and equipment including lighting may need to be intrinsically safe or specially protected;

- Ingress of substances: substances such as liquids, gases, steam, water, free flowing solids, etc. may enter into the confined space from nearby processes, services or inadvertently operated machinery. Wherever possible power should be disconnected to such equipment and measures taken to ensure it cannot be reconnected until it is safe to do so (lockout). Care should be taken not to isolate vital services such as sprinkler systems or communications. Measures may also need to be taken to prevent substances normally held in the confined space from being automatically delivered;
- Rescue procedures: possible emergencies should be anticipated and appropriate rescue arrangements made. The likely risks, and therefore the equipment and measures needed for a rescue by nearby employees need to be identified, this would include communications, PPE and appropriate training.

Safe System of Work:

The assessment process should lead on to the designing of a safe system of work, which may form the basis of a Permit to Work system; this will depend on the risk assessment. The Regulations require that no person shall enter, work in, or leave a confined space (other than in an emergency situation) unless there is a safe system of work in place that renders the work safe and without risks to health. Factors that require consideration when designing a safe system of work may include;

- Adequate levels of supervision, including the possible need to appoint a competent person to supervise the work;
- Suitability and competence of the workers, including experience, training, physical health and mental attributes;
- Adequate communication arrangements, to summon help in an emergency, or to allow those inside the space to communicate both with each other and those outside;
- Testing of the atmosphere within the space, including the choice of test equipment, the type of contaminates and level of oxygen;
- Whether purging of the space with air or inert gas would be required, and the method and amount of ventilation that maybe required;
- Whether cleaning the space or removal of residues is necessary and how this is to be done;
- Whether gases, liquids, free flowing solids and mechanical and electrical equipment can be isolated and the way that this is to be achieved;
- Selection and use of suitable equipment for working or rescue within the space, including lighting and Personal or Respiratory Protective Equipment. In cases where heat or humidity levels are high and PPE or RRE is being worn it may be required to limit working time;
- Whether machinery fuelled by petrol, diesel or gas can be excluded from the space;
- Prevention of static electricity build up including earthing and bonding, and control procedures for hoses and pipelines;
- Arrangements for access, egress, emergency situations and emergency rescue ;
- Materials storage, fire prevention including smoking control arrangements inside and outside the space. Smoking should not be permitted in confined spaces, the results of a risk assessment will determine whether it is necessary to extend this rule beyond the confined space. N.B. Whilst smoking is not permitted within any University premises, the confined space in question may be outwith a building, remote from a University campus or the workers may be unaware of the University "No Smoking" rule (e.g. contractor).

Prohibition of Entry:

The Regulations prohibit entry into a confined space unless suitable rescue arrangements have been previously been put in place. Such arrangements should include the provision of resuscitation equipment where conditions require it and must reduce the risks to those involved to the lowest level reasonably practical. It is a requirement that where any emergency situation arises, the rescue arrangements are implemented immediately.

The Regulations also place a duty on employers, or those in charge of the work, to prevent employees or others who are in any extent within the employers control (e.g. contractors) from entering or working within a confined space, where it is reasonably practical to undertake the work without entering the space. Any entry into a confined space should be subject to risk assessment and a safe system of work.

Where an area is identified as a confined space, and such space will always remain a confined space, because of an inherent property of that space e.g. size, content etc. (confines of space x specified risk), such space should be signed as a confined space, locked off, and subject to a permit to work system.

Rescue:

Precise rescue arrangements will, of course depend on the risks identified. Assessment of such rescue arrangements should include general accidents such as incapacitation after falls, medical incidents such as heart attacks, as well as those resulting specifically from work in a confined space.

Equipment provided as part of the arrangements of rescue should be suitable for the risks. Where there is time to react to an anticipated emergency this could include self rescue equipment including, lifelines, lifting equipment, first aid equipment and breathing apparatus.

Complex work may require the warning of the emergency services and the provision to them of information before commencing work. Whether emergency services are notified in advance or not, there should be a clear procedure in place to ensure that they can be alerted rapidly in the event of an accident or incident.

Training:

Workers who are to work in confined spaces should be both physically and mentally capable of doing so. In addition to method training in how to carry out the work efficiently, training should also be given in the following areas;

- Safe systems of work;
- Hazard awareness;
- Risk reduction methods;
- Likely causes of an emergency;
- Use of equipment, including test and function tests, malfunctions or defects and maintenance;
- Emergency procedures, including methods of raising the alarm, contact and liaison with the emergency services;
- Methods of shutting down adjacent plants;
- Operation of fire fighting equipment.

Summary:

Of Estates & Buildings staff, those at risk could include any tradesman or managers active in the field: plumbers, electricians, project officers etc. They may perform a variety of tasks: cleaning, painting, welding, and the application of coatings, etc.

In an academic setting, it is possible that geologists, archaeologists, engineers, geographers and biologists of many different disciplines, and their

students (undergraduate or postgraduate) could be involved in this kind of activity. They may wish to enter a confined space to take samples or check on the progress of an experiment.

Clearly, the experience and initiative that can be attributed to such people varies tremendously: from the highly experienced professional scientist or tradesman to an inexperienced undergraduate. The relative experience or abilities of those entering a confined space must be taken into account when the venture is being planned. It is for this reason that this guidance, outlining the responsibilities of those in charge of such work, has been formulated so precisely.

The precautions required in a safe system of work will depend on both the nature of the confined space and the risk assessment. The risks involved and the precautions needed for cleaning car interiors with solvents are relatively straight forward compared with those involved with welding work inside plant or work in sewers.

The personnel who are to enter a confined space need to be competent for the task at hand. If their job is simply to walk into a cave, stand and observe, then no specific skills are necessary, other than an instruction from the group leader (whilst outside) to follow orders when in the cave. The specific training appropriate for more complex or risky tasks depends on the outcome of the risk assessment.

This guidance whilst addressing the specific subject of confined space working is a general overview and further more detailed guidance may be required. More detailed reading on the requirements of the Regulations is available in; "Safe work in confined spaces" HSE, ACOP L101, ISBN 0 7176 1405 0.

Staff who are involved in confined space working and are unsure of any aspect of the management of such projects, including assessment and safe working practices, can gain further guidance and information from the Health and Safety Department. (tel: 514255 or email: health.safety@ed.ac.uk)

A video and training pack entitled "Confined Space Entry" is available for loan from Estates and Buildings Works Division by emailing Mr S Batley: Steve.Batley@ed.ac.uk

References:

Safe work in confined spaces, Approved Code of Practice, Regulations and Guidance, Health and Safety Commission, HSE books, L101.

Principles of Health and Safety at Work, pp193-195, Allan St John Holt, IOSH Services.

Working Safely in Confined Spaces, Safety and Environmental Protection Services, University of Glasgow.

Appendix I

Permit to Work Systems

A Permit to Work system is a formal written system used to control certain types of works which have been identified as having special risk. It is also a means of communication between those who direct work (broadly management/supervisors), those who have to work in confined spaces and those who need to take particular notice of the work so that their actions do not endanger others.

The Permit authorises certain named people to do certain things, at a certain time, and sets out the main precautions needed to complete the work safely. Sometimes this is augmented by a detailed method statement.

The Permit to Work therefore reassures those about to enter the confined space that the work will kept safe, and tells those remaining outside what actions they ought to take (or perhaps what actions not to take!). To achieve this, any Permit system has to be flexible (to take account of possible variable nature of the work) but remain a truly effective control. Any University School/Unit (other than Estates and Buildings) which considers a Permit to Work system appropriate for their work (for confined space entry or any other similar purpose) should contact the Health & Safety Department for guidance on its design and implementation.

The design of a Permit to Work system can be complex, and rarely does the Permit 'stand alone': it is usually accompanied by a local guidance document that explains the way in which the system is meant to operate. The following checklist will help those designing or preparing a Permit to Work system to decide whether they have covered all the essential points. If the answer to any point is 'no', then you should ask whether the absence of this feature in the system will compromise anyone's safety.

- Does the Permit cover all the relevant legal requirements?
- Does the Permit clearly define the limits of the work and the location concerned?
- Does the Permit procedure extend to contractors and their employees?
- Is compliance with the Permit procedure understood by all involved as being essential for certain types of work?
- Is it clearly laid down who has the authority to issue Permits?
- Have personnel who issue Permits been formally authorised and received suitable training?
- Do Permits clearly specify to whom they are issued?
- Does the recipient have to sign the Permit to show that he/she has both read the permit and understood the conditions laid down in it?
- Does the procedure provide both for the recipient to retain the Permit, and for a record of live permits to be maintained at the point of issue?
- Does the system stipulate where 'live' Permits must be displayed?
- Do Permits specify clearly a time limit for expiry or renewal?
- Do Permits specify clearly the plant or geographical location to which the work must be limited?

- Does the system ensure that the person in charge of the work is aware of all work controlled by Permits that is proceeding within his/her area of responsibility?
- Does the Permit procedure include a hand-over mechanism for work that extends beyond a shift or work period?
- Is a hand-back signature required when the activity is complete?
- Does the system show how the effectiveness of the procedures will be monitored?
- How will the effectiveness of the system be reviewed?

It is important that one activity authorised under a Permit to Work system does not create danger for another. Those who authorise the issue of Permits should be aware of potential interactions, and should ensure that when a Permit is issued it takes account of, and does not conflict with Permits already issued and still valid.

Appendix II

Other Regulatory Requirements

It is important when carrying out a risk assessment of confined space working, in compliance with the requirement for general risk assessment under the Management of Safety and Health Regulations, that the mind is not focused solely on the hazards of confined spaces and other Regulations overlooked. The requirements of other Regulations may highlight similar or allied hazards to those outlined above, or place parallel duties on those managing the work. Some of these other Regulations bear a legal requirement to carry out risk assessment of the specific hazard they relate to. However, it should be remembered that this does not necessarily require separate risk assessments in order to ensure compliance with each separate set of Regulations. If all statutory requirements and all obligations have been considered, and all hazard areas addressed, then all such assessment can be included in one risk assessment covering the specific work being contemplated.

Some of the relevant legal requirements, which should be considered, are included in the following Regulations: -

- The Control of Substances Hazardous to Health Regulations 1999 (see ‘General COSHH ACOP.’ L5, ISBN 0 7176 1670 3, and "COSHH a brief guide to the regulations" ISBN 0 7176 2444 7, text of latter available at http://www.open.gov.uk/hse/hsehome.htm)
- The Electricity at Work Regulations 1989 (see "Memorandum of guidance on the Electricity at Work Regulations1989" ISBN 0 7176 1602 9, and "Electricity at Work: Safe working practices" ISBN 0 7176 0442X)
- The Provision and Use of Work Equipment Regulations 1998 (see ACOP "Safe use of work equipment") ISBN 0 7176 1626 6
- The Control of Asbestos at Work Regulations 1987 (see ACOP L27 "The control of asbestos at work" ISBN 0 7176 1673 8) and University "Asbestos Policy and Codes of Practice" on Estates and Buildings

Department website at:
http://www.docs.csg.ed.ac.uk/EstatesBuildings/Asbestos/Policy.pdf

- The Noise at Work Regulations 1989 (see L108 "Reducing noise at work" ISBN 0 7176 1511 1
- The Construction (Design and Management) Regulations 1994 (see ACOP L54 "Managing construction for health and safety" ISBN 0 7176 0792 5)
- The Workplace (Health, Safety and Welfare) Regulations 1992 (see ACOP L24 "Workplace health, safety and welfare" ISBN 0 7176 0423 6)
- The Personal Protective Equipment at Work Regulations 1992 (see ACOP L25 "Personal protective equipment at work" ISBN 0 7176 0415 2)
- The Manual Handling Operations Regulations 1992 (see ACOP L23 "Manual handling" ISBN 0 7176 2415 3)