Working in Confined Spaces

Responsibility: All Campus Services Employees, and contractors.

To be read in conjunction with:

- **Buildings Hazards Register for University owned or controlled facilities**
- **Campus Services H&S Arrangements –** ***for the Selection, Use and Storage of PPE***

Purpose of this Instruction

Campus Services recognises that a number of facilities/ locations fall within the definition of a confined space. As staff may be required to enter such spaces as part of their duties, this arrangement has been developed to:

- Ensure entry into confined spaces is avoided wherever possible;
- Ensure that all confined spaces and hazards likely to be encountered are known and their details entered within the Buildings Hazards Register;
- Ensure that, where entry is unavoidable, the activity is subjected to a suitable and sufficient risk assessment and that only trained and fully equipped staff enter a confined space;
- Set the health, safety, and welfare principles for confined space entry and ensure that these are communicated to staff;
- Establish the emergency arrangements as necessary for confined space entry;
- Ensure that the University's Permit to Work system is followed when any Confined Space activity is undertaken;
- Ensure that management and staff are fully aware of the duties under H&S law.
- Ensure that the Buildings Hazards Register is added to and updated when ever necessary.

Definitions

'Confined Space' - A confined space is defined by HSE as 'any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions (e.g. lack of oxygen)'. Such spaces will include any chamber, tank, vat, silo, pit trench, pipe, sewer, flue or well. It is worthy of note that some places may only become confined spaces when work is carried out, or during their construction, fabrication or subsequent modification.

'Specified Risks' are defined in Regulation 2 of the Confined Spaces Regulations 1997. Generally they can be described as those which pose a risk of serious injury arising from a fire or explosion; the loss of consciousness arising from an increase in body temperature; or the loss of consciousness or asphyxiation arising from gas, fume, vapour or the lack of oxygen.

Buildings Hazards Register

This Register will be prepared and maintained by the Property Services Manager or delegate and will contain as a minimum the following information:

- Location of each confined space
- Brief description of the confined space including means of access and egress
- Details of any hazards likely to be encountered
- Rules, instructions and permits applying
- Location of Space-Specific Risk Assessment, date undertaken and date for review

Before Entering Confined Spaces

- Confirm whether the area is identified as a confined space by first reviewing the University's Buildings Hazards Register;
- Complete the appropriate University of Exeter Permit to Work, ensuring it is checked and signed off by an individual with the authority to do so;
- Having reviewed the available risk assessment and safe system of work documentation for the confined space, carry out a task specific risk assessment for the planned confined space and work to be undertaken;

The task specific risk assessments should consider the following in order to identify the hazards present taking into account specified risks as defined above;

- the task;
- the working environment;
- working materials and tools;
- the suitability of those carrying out the task;
- arrangements for emergency rescue;
- necessary level of training;
- level of supervision

Safe System of Work

If entry into a confined space cannot be avoided, the significant findings of both space-specific and task specific risk assessments shall be used to help identify and develop the necessary precautions and procedures (safe systems) so as to reduce the risk of injury. These will depend on the nature of the confined space, the associated risk and the work involved.

Supervisors are to make sure that a safe system of work, including the precautions identified, is put into practice. Please note; a Permit to Work does not constitute a safe system of work but forms part of that system. The main elements of a safe system of work are:

Supervision – The degree of supervision shall be based on the results of risk assessment. Where the level of risk has been identifies the appointment of a 'competent person' to be present whilst the works are undertaken; it will be the Supervisor's responsibility to ensure this appointment.

Competence for confined space working – previous experience of personnel, what training they have had and ensuring they have received adequate information and instruction about the job to be undertaken.

Communications – Should be adequate between persons in the confined space, between those outside the space and to summon assistance in the case of emergency.

Testing/Monitoring the atmosphere – Test for toxic fumes, oxygen concentration and explosive gases prior to entry.

Gas purging – Check the atmosphere after gas purging before allowing personnel to enter.

Ventilation – Fresh air ventilation must be achieved without introducing oxygen into the space and whilst ensuring that air entering the confined space is not contaminated.

Removal of residues – Disturbance of residues may result in the release of harmful gases or dusts. Powdered ventilation equipment, intrinsically safe equipment, respiratory protective equipment and atmospheric monitoring may be necessary.

Isolation from gases, liquids and other flowing materials – Ideally the confined space will be disconnected completely from every other item of plant and every inlet pipe sealed with a blank flange.

Isolation from mechanical and electrical equipment – Equipment should be 'locked off' until the work is complete.

Equipment – Should be suitable for the purpose. Intrinsically safe equipment may be necessary. Likely equipment will include but not be limited to:

- Rescue equipment/harnesses
- Ventilation
- Air testing
- Special tools and lighting

Access should be obtained to all equipment testing and calibration records prior to use.

P.P.E and R.P.E – These should be considered as a last resort, engineering controls and Safe Systems of Work should always be considered first.

Portable gas cylinders and internal combustion engines – Petrol fuelled engines should never be used. Portable gas cylinders for heat, power and light and diesel fuelled engines are normally inappropriate. Where their use cannot be avoided, adequate ventilation must be provided.
At the end of the work period gas cylinders, including those from welding sets, should be removed from the confined space in case of slow leakage.

Gas supplied by pipes and hoses - At the end of the work period, the supply valves should be closed and hoses removed to a well ventilated space. If this is not possible then hoses are to be discontinued outside the confined space.

Access and egress – Safe access and egress must be provided with adequate size of openings.

Fire prevention – Flammable materials should not be stored in the confined space. Where it is necessary, they should be in a suitable container and in minimum quantities.

Lighting – Must be suitable for the space e.g. intrinsically safe, mechanical protection, waterproof, etc.

Static electricity – Where flammable atmospheres may exist, earthing and bonding of equipment should be undertaken.

Emergencies and rescues – Equipment is to be provided for such a rescue, before a person can enter or work in a confined space.

Limited working time – This may be necessary when using breathing apparatus, working in high temperatures or where movement is restricted.

A safe system of work, aided by the provision of a Permit to Work, should include a method of logging the number of personnel entering the confined space, the time at which they entered, their location and task within the confined space and note any limited working time imposed on them by the conditions. This should be maintained at the entry point and be available to emergency services in the case of emergency rescue.

Everyone involved will need to be properly trained and instructed to make sure they know what to do and how to do it safely.

Reference
The Confined Space Regulations 1997 and Approved Code of Practice & Guidance L101