Introduction

A confined space is any space that is large enough for an employee to enter, that has a restricted means of entry or exit, and that is not designed for continuous employee occupancy.

A "Permit-required confined space (permit space)" means a confined space that has one or more of the following characteristics:

(1) Contains or has a potential to contain a hazardous atmosphere;

(2) Contains a material that has the potential for engulfing an entrant;

(3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

(4) Contains any other recognized serious safety or health hazard.

All of these criteria must be met for a space to be classified as confined space or permit-required confined space. Examples of confined spaces include tanks, pits, certain tunnels, utility vaults, and boilers. The physical and atmospheric hazards often associated with confined spaces can cause serious injury or death to workers. The major factors that lead to injuries in confined spaces include failure to recognize and control these hazards, and inadequate or incorrect emergency response.

Scope and Application

The Occupational Safety and Health Administration (OSHA) requirements apply to most activities that require entry into a confined space. Examples of specific activities include, but are not limited to, the following:

- Maintenance and cleaning of boilers
- Cutting or welding in confined spaces
- Telecommunications and electrical utility work performed in manholes and unvented vaults
- Work in excavations or trenches that could develop hazardous atmospheres
- Work in sewers, manholes, pits, traps, and the like

Program Description
Workplace Survey and Evaluation of Confined Spaces

Departments must conduct a survey of their workplace to determine if any confined spaces and/or “permit-required confined spaces” exist. As part of the survey, confined spaces must be evaluated to determine if any physical or atmospheric hazards are associated with them which would require them to be identified as permit-require confined space/s. For all “Permit-Require Confined Space/s” there must be an "entry permit (permit)" means the written or printed document that is provided by the employer to allow and control entry into a permit space completed and at or near the entry site during entry into the permit-required confined space. All permit-require confined spaces must be identified with signage such as (Danger Confined Space Enter By Permit Only). These requirements for permit-require confined space entry does apply to all USC employees and contractors. Contractor must comply with USC requirements for entry into permit-require confined spaces; the contractor may use their own company procedures and written permit only if their procedure and written permit is comparable to USC’s. If the contractor does not have their own procedures and permit entry form then they must use USC after they have been trained on USC’s procedure and written permit form and all potential hazards and personal protective requirements for safe entry into the permit-required space. Assistance in confined space identification and evaluation is available through Environmental Health and Safety (EHS).

Written Confined Space Entry Program

Departments whose workers are expected to enter confined spaces or permit-required spaces must develop a written program that outlines procedures to be used for safe entry. These procedures are usually incorporated into a written entry permit and may include provisions from other programs, such as lockout/tagout (see Section C.3, Lockout/Tagout). A model Written Confined Space Entry Program is available from EHS, or you may download one from the EHS website (http://ehs.sc.edu/forms.htm)

Protective Equipment and Material

Several types of protective equipment and material are usually necessary for safe entry into confined spaces. These may include equipment for atmospheric testing, ventilation, communication, lighting, and rescue. Personal protective equipment appropriate for the hazards of the space must also be provided to workers (see Section B.4, Personal Protective Equipment).

Training

All authorized employees who enter or work in a “Permit-Require Confined Space” or serve as entry supervisor, qualified person, attendant/standby person, or rescue person will receive safety and health training to minimize the occurrence of accidents and adverse health conditions. The EHS staff, in conjunction with the Facilities Management Training Officer, will conduct this training.
Emergency Rescue

In an emergency the attendant/standby person(s) are to maintain unobstructed lifelines and communication to all workers within the confined space, and summon rescue personnel (U.S.C. Police at 777-9111) if necessary. Under no circumstances should the attendant/standby person enter the confined space. While awaiting rescue assistance, the attendant/standby person will make rescue attempts utilizing the lifelines from outside the confined space.

Contractors

Departments must inform outside contractors of the potential hazards that may be encountered during their work at the University. This includes giving the contractor access to any information available on the confined spaces involved in their project.

Similarly, the contractor must inform the Department of any changes made to a confined space in the course of their work. Any change, no matter how minor, would require a re-evaluation of the space before entry would again be allowed.

Roles and Responsibilities

Department

- Survey workplace to identify any confined spaces.
- Evaluate confined spaces found during the workplace survey.
- Evaluate program and procedures at least annually.
- Provide necessary protective equipment and materials.
- Provide specific training for confined space entry.
- Provide contractors with information on any confined spaces that are involved in a project.

Supervisors

- Recognize confined spaces in the workplace.
- Identify workers who may be expected to enter confined spaces.
- Ensure workers receive general and specific training.
- Ensure workers follow all appropriate procedures during confined space entries.

EHS

- Provide general training.
- Assist in identification and evaluation of confined spaces and their hazards.
- Provide periodic audits of the confined space entry program.

Individual
- Attend training.
- Never enter a confined space unless following proper procedures.
- Report potentially hazardous conditions to supervisors.

For More Information

- Contact the USC Employee Safety Manager at 777-5269
- A model Written Confined Space Entry Program and Confined Space Entry Permit form is available through EHS, or you may download the program and appendices from the EHS website (http://ehs.sc.edu)
- A Confined Space Entry Self-Audit Checklist is available through EHS.
- A copy of 29 CFR 1910.146 is available through EHS or the OSHA Website