

**MEDICAL UNIVERSITY OF SOUTH CAROLINA (MUSC)**  
**CONFINED SPACE ENTRY POLICY**

Revised: 9/2007

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## **I. Introduction**

The Medical University of South Carolina Confined Space Entry Policy is designed to ensure that our employees are protected from confined space entry hazards and comply with OSHA Standard 29 CFR 1910.146. Injuries and fatalities occur when workers enter confined spaces without realizing that the normal oxygen content have been depleted or that other toxic gases may be present. The division of Occupational Safety and Health (OSH), at Medical University of South Carolina (MUSC) has the responsibility of implementing the confined space program. The Director of Occupational Safety and Health Programs or his/her designee will on an annual basis review all confined spaces and updated any information pertaining to the policy.

## **II. Policy Objectives**

Listed below are policy objectives for MUSC's Confined Space Entry Program. These objectives are to ensure a safe working environment for all personnel entering a confined space and adhere to established safety practices and utilize required confined space entry equipment.

- Hazard Identification. Permit space hazards have been identified and evaluated, including a determination of the severity of the hazard.
- Hazard Control. Procedures and practices have been established in order to allow for safe entry.
- Permit System. A written permit system, which details proper preparations, issuance and implementation of entry permits, has been established.
- Employee Information. Signs have been posted near permit spaces to notify employees what hazards may be present and that only authorized entrants may enter the permit space.

- **Prevention of Unauthorized Entry.** Prevention of unauthorized entry is achieved by training employees and posting of warning signs.
- **Employee Training.** Affected MUSC employees that will be confined space attendants, authorized entrants, and personnel authorizing or in charge of entries receive adequate training to enable them to work safely in and around permit spaces.
- **Equipment.** MUSC will provide, maintain and ensure that proper use of the equipment necessary for safe entry, including testing, monitoring, communication, and personal protective equipment.
- **Rescue.** MUSC will ensure that the procedures and equipment necessary to rescue entrants from permit spaces are implemented and provided.
- **Protection from External Hazards.** MUSC staff will ensure that all pedestrians, vehicles or other barriers necessary to protect entrants from external hazards are provided.
- **Duty of Other Employees.** When an employer such as a contractor plans to send employees into a MUSC permitted confined space, MUSC will provide the contractor with all available information on the permit space hazards, efforts to comply with 29 CFR 1910 and any other workplace hazard, safety rules and emergency procedures of which the contractors is responsible and needs to be aware.

### III. **Definitions**

Confined Space:

- Is large enough and so configured that an employee can bodily enter and perform assigned work. (Entry has begun as soon as entrant's face breaks the plane of the opening of the confined space).
- Has limited or restricted means for entry or exit (some examples are tanks, vessels, silos, storage bins, hoppers, vault, pits, and dike areas).
- Is not designated for continuous employee occupancy.

#### Permitted Confined Space:

- Contains or has a known potential to contain a hazardous atmosphere.
- Contains a material with the potential for engulfment of an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inward converging walls, or a floor, which slopes downward and tapers to a smaller cross section.
- Contains any other recognized serious safety or health hazard.

#### Hazardous Atmosphere:

- An atmosphere which has less than 19.5% available oxygen; and atmosphere containing more than 23.5% by volume; an atmosphere containing any other hazardous substance above OSHA recommended levels.

#### Continuous Worker Occupancy:

- Most confined spaces are not designed for workers to enter and work in them on a routing basis. They are designed to store a product, enclose materials and processes, or transport products or substances. Therefore, occasional worker entry for inspection, maintenance, repair, cleanup, or similar tasks is often difficult and dangerous due to chemical or physical hazards within the space.

#### Entry and Exit Opening:

- Primarily size or location limits confined space openings. Openings are usually small in size, perhaps as small as 18 inches in diameter, and are difficult to move through easily. Small openings may make it very difficult to get needed equipment in or out of these spaces, especially protective equipment such as respirators needed for entry into spaces with hazardous atmospheres, or life-saving equipment when rescue is needed.

#### **IV. Training**

To assure that work can be done safely in and around the permitted space, all attendants, authorized entrants, and personnel authorizing entry shall receive training on an annual basis. OSH will conduct this training. Only employees who have completed this training will be allowed to work inside confined spaces.

#### **V. Duty Requirements**

##### **A. Authorized Attendants**

The attendant shall be stationed and remain outside the permit space at all times during entry operations. Employees who work as attendants will be trained to perform the following duties:

- The attendant shall continuously maintain an accurate count of all persons in the space.
- The attendant shall know of and be able to recognize potential permit space hazards, monitor activities inside and outside the permit space to determine if it is safe for entrants to remain in the space.
- The attendant shall summon rescue and other emergency services as soon as attendant determines that authorized entrants need to escape from the space.
- The attendant shall inform the authorized entrants and OSH if unauthorized persons have entered the space.

##### **B. Authorized Entrants**

The entrants are workers who are authorized to enter the space and perform work. Employees who work as entrants will be trained in the following duties:

- The entrant shall know the hazards, which may be faced during entry.
- Recognize the signs and symptoms of exposure to a hazard.
- The entrants shall maintain contact with the attendant.

- The entrants shall notify the attendant when evacuating the space.
- Entrants should be aware of the personal protective equipment, such as retrieval lines, respirators or clothing, needed for safe work and exit.

C. Individual Authorizing Entry

The individual authorizing entry or the entry supervisor, is responsible for the overall safety of all activities in and around the confined space. Only members of OSH are able to permit space and sign entry permits. Their duties include the following:

- Determine that the entry permit contains the requisite information before authorizing or allowing entry.
- Determine that the necessary procedures, practices and equipment for safe entry are in effect before allowing entry.
- Determine, at appropriate intervals, that entry operations remain consistent with the terms of the entry permit, and that acceptable entry conditions are present.
- Cancel the entry authorization and terminate entry whenever acceptable entry conditions are not present.
- Take necessary measures for concluding an entry operation.

D. Rescue Team

MUSC's rescue team will be made up of employees from OSH. All members of the rescue team will have extensive training in hazard recognition, personal protective equipment, and use of retrieval equipment, rescue techniques, and communications. MUSC's rescue team will participate in simulated rescues in which dummies, mannequins or personnel are pulled through portals whose configuration and accessibility closely represent those of permit spaces at MUSC. Simulated training will be performed at least annually. At least one member of the rescue team will be certified in first aid and cardiopulmonary resuscitation. All rescue team members

will be provided with communication equipment that will allow for quick response to an emergency. No permit space entry will be authorized unless the rescue team is on campus.

## **VI. Written Permit System**

A standardized permit has been developed which identifies all conditions, which must be evaluated to ensure safe entry into a permit space. Permits must be applied for through OSH and at least 48 hours before entry of a permitted space. Permits for emergency work will be evaluated on a case by case basis. The following permit information is required before entry:

- Location of the permit
- Purpose of the permit
- Hazards of the permit space
- Date of entry and duration of work
- List of authorized entrants
- List of authorized attendants
- List of any equipment or materials to be used in the space
- Description of work to be performed inside the space

## **VII. Appendix**

### **A. List of Permitted Spaces**

1. All manholes on campus
2. All tanks that are large enough for entry
3. All boilers on campus

### **B. List of Hazardous Areas**

#### **Children's Hospital**

1. All crawl spaces under building

2. All chillers in the HVAC room
3. Sump pit in boiler room
4. All elevator shafts

### **Eye Institute**

1. All crawl spaces under building
2. All elevator shafts

### **Children's Research Institute (CRI)**

1. All crawl spaces under building.
2. Utility tunnel.
3. All elevator shafts.
4. Underground storage tank.
5. All chillers and boilers.

### **Hollings Oncology Center**

1. Crawl spaces under building.
2. Elevator shafts.

### **Strom Thurmond**

1. Crawl spaces under building.
2. Elevator shafts.
3. Chillers and boilers.
4. Underground storage tank.

### **Psychiatric Hospital**

1. All crawl spaces under building.
2. All elevators shafts.

### **Teaching Hospital**

1. All crawl spaces under building.
2. Water tank main penthouse.
3. Crawl space between hospital floors 4 and 5.
4. All elevator shafts.

### **Clinical Science Building**

1. All crawl spaces under building.
2. All elevator shafts.
3. All chillers on 7<sup>th</sup> floor.

### **Basic Science Building**

1. All crawl spaces under building.
2. All elevator shafts.

### **CHP Building**

1. All crawl spaces under building.
2. All elevator shafts.

### **Administration Building**

1. All crawl spaces under building.
2. Manhole next to building and tunnel.
3. All elevator shafts.

### **Hazardous Waste Building**

1. Crawl space under building.

### **Old Charleston County Parking Garage**

1. Crawl space under garage.
2. All elevator shafts.

### **All other building on campus**

1. All crawl spaces under buildings
2. Elevator shafts.
3. Chillers and boilers.

## Medical University South Carolina

### Permitted Confined Space Locations

1. All manholes on campus.
2. All tanks that are large enough for entry.
3. All boilers on campus.

### Other Designated Confined Spaces (Hazardous Areas)

#### **Children's Hospital**

1. All crawl spaces under building.
2. All chillers in the HVAC room.
3. Sump pit in boiler room.
4. All elevator shafts.

#### **Eye Institute**

1. All crawl spaces under building.
2. All elevator shafts.

#### **Psychiatric Hospital**

1. All crawl spaces under building.
2. All elevators shafts.

#### **Teaching Hospital**

1. All crawl spaces under building.
2. Water tank main penthouse.
3. Crawl space between hospital floors 4 and 5.
4. All elevator shafts.

#### **Clinical Science Building**

1. All crawl spaces under building.
2. All elevator shafts.
3. All chillers on 7<sup>th</sup> floor.

#### **Basic Science Building**

1. All crawl spaces under building.
2. All elevator shafts.

#### **CHRP Building**

1. All crawl spaces under building.
2. All elevator shafts.

#### **Administration Building**

1. All crawl spaces under building.
2. Manhole next to building and tunnel.
3. All elevator shafts.

**Hazardous Waste Building**

1. Crawl space under building.

**All other building on campus**

1. All crawl spaces under buildings.