

PROVIDENCE COLLEGE
CONFINED SPACE ENTRY
POLICY

PURPOSE & SCOPE

The Providence College **Confined Space Entry Program** provides procedures for the safe entry and work practices which could be associated with entering, working in, or exiting from a confined space. Most accidents, which relate to confined spaces, occur because employees fail to recognize the potential hazard(s) presented by working in a confined space. Employees who enter a confined space could be exposed to multiple hazards, often because of the lack of awareness of the potential hazards. The goal of this Confined Space Program is to eliminate accidents and injuries that may result from work in a confined space. The policy applies to all Providence College employees who enter confined spaces at Providence College.

This Plan was developed in accordance with the Federal Occupational Safety and Health Administration (OSHA) Standard, 29 CFR 1910.146; **Permit Required Confined Spaces**.

TRAINING

All employees who may enter, attend, or supervise employees entering confined spaces must be trained. New hires that will participate in confined space entry should be trained prior to entering a confined space. Training shall be directed under the supervision of the Office of Environmental, Health and Safety.

On occasion, it may be necessary for an outside contractor to enter a Permit Required Confined Space. Prior to entry, the contractor shall furnish a copy of their Confined Space Program and all necessary documentation stating that the individuals to be working in the area have received the proper training. A copy of this information should be forwarded to the Office of Environmental Health & Safety for record retention.

DEFINITIONS

Confined Spaces- A confined space is a space large enough and so configured that an employee can bodily enter and perform assigned work; and has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and is not designed for continuous employee occupancy.

There are two types of confined spaces:

1. **Permit Required Confined Space-** this is a confined space that meets the definition of a confined space but has one or more of the following characteristics:
 - a. Contains or has a potential to contain a hazardous atmosphere;

- b. Contains a material that has the potential for engulfing an entrant;
 - c. Has an internal configuration such as 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
 - d. Contains any other recognized serious safety or health hazard.
2. **Non-Permit Required Confined Space** – is a space that meets the definition of a confined space but does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

HAZARDS OF CONFINED SPACES

Confined spaces can be hazardous for several reasons:

- a. Hazardous atmospheres – the nature of many confined spaces can cause them to have poor atmospheres such as lack of oxygen, flammable gases, toxic gases, etc.
- b. Engulfment / Entrapment – the space has the potential for a material in the space to collapse and trap or bury the employee inside of the confined space.
- c. Restricted Entry – spaces are not made for continuous occupancy and may have limited entry and exit places.
- d. Occupational Hazards – occupational hazards are amplified in confined spaces. Noises are louder because they cannot escape into the atmosphere. Heat builds up quickly and can lead to heat exhaustion.

Proper precautions must be taken to address these and other potential hazards of confined spaces.

ENTRY PROCEDURES FOR CONFINED SPACES

- 1. Prior to entering any confined space:
 - a. Any employee who is an entrant, attendant, or supervisor must have proof of having attended confined space training while at Providence College.
 - b. The College's Office of Environmental , Health & Safety (EHS) should be contacted. The phone number is 865-2625.

WHENEVER THE CONFINED SPACE TO BE ENTERED MEETS THE DEFINITION OF "PERMIT REQUIRED CONFINED SPACE", THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

2. Entering permit required confined spaces:

a. Prior to entry, a confined space entry permit must be completed.

1. Prior to opening the confined space all associated processes should be shut down and locked out and tagged out.
2. Hazardous Atmosphere – air will be tested to ensure that the atmosphere is within OSHA limits for human occupancy. A calibrated confined space test meter will be used to test the atmosphere prior to entry. To be safe to enter the following must be met:
 - Oxygen** – level must be between 19.5% through 23.5%
 - LFL** – flammable gases, vapors, or mists must be below 10% of LFL
 - Toxic Gases** – no presence of toxic gases is allowed.If any of these conditions exist, do not enter the confined space.
Mechanical ventilation may be used to correct hazardous atmospheres.
3. Entrapment / Engulfment – if the hazard for entrapment or engulfment exists, proper blocking procedures must be used to isolate the hazard.
4. Rescue equipment should be present and on site ready to be employed.
5. Emergency communication equipment should be at the site and be at minimum a two-way radio.
6. A trained attendant (standby person) must be stationed at the site and trained in the duties of the attendant. Name must be filled in on the permit.
7. All entrants must be trained in the duties of the entrant. Entrants' names must be filled in on the permit.
8. Supervisor must review, sign, and approve of the entry prior to employees entering the space.
9. The completed and signed confined space permit must be posted at the entrance of the confined space.

NOTE: Employees who enter the confined space have a right to review and observe all checks on the confined space prior to entering the space.

b. Entering the confined space:

1. Once the confined space permit is fully executed, the authorized entrants may enter the confined space
2. The attendant should retest the air periodically while the employees are in the confined space to ensure that atmospheric conditions are acceptable. If air tests are not acceptable, attendant will order entrants out of the confined space.

3. The authorized entrants must stay in touch with the attendant by sight and verbal communication throughout the work. If any condition inhibits this communication, then the attendant will order the entrants to exit the confined space.
 4. Once employees exit the space, the permit should be canceled. Even if the employees are taking a break or lunch, a new permit will be completed for each re-entry. The air will be tested each time before re-entry, and the permit completely filled out.
- c. Once Work in the Confined Space is Completed:
1. Ensure that all workers and all equipment are out of the confined space. Remove any ventilation devices. Close the access cover to the confined space.
 2. Remove locks and tags from devices locked out. Reenergize this equipment.
 3. Return all canceled permits to the environmental health & safety officer.

WHENEVER THE ONLY HAZARD POSED BY THE PERMIT SPACE IS AN ACTUAL OR POTENTIAL HAZARDOUS ATMOSPHERE, AND IT HAS BEEN DEMONSTRATED THAT CONTINUOUS FORCED AIR VENTILATION ALONE IS SUFFICIENT TO MAINTAIN THE SPACE SAFE FOR ENTRY, THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

- a. Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.
- b. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
- c. Before an employee enters the space, the internal atmosphere shall be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee who enters the space, or that employee's authorized representative, shall be provided an opportunity to observe the pre-entry testing required by this paragraph.
- d. There may be no hazardous atmosphere within the space whenever any employee is inside the space.
- e. Continuous forced air ventilation shall be used, as follows:
- f. An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;
- g. The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space;
- h. The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space.
- i. The atmosphere within the space shall be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Any employee who enters the space, or that employee's authorized

representative, shall be provided with an opportunity to observe the periodic testing required by this paragraph.

- j. If a hazardous atmosphere is detected during entry, each employee shall leave the space immediately.
- k. The space shall be re-evaluated to determine how the hazardous atmosphere developed, and measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

3. Entering non-permit required spaces:

- a. Evaluate the confined space to determine that it qualifies as non-permit required and that no hazardous work will be performed in the space. Address any concerns with your supervisor.
- b. Take precautions, as necessary, such as: install vehicular and pedestrian traffic controls, post warning signs at the work location, etc.
- c. Take measures to prevent hazards near the confined space.
- d. Use any required personal protective equipment for the task being conducted.
- e. A minimum of two workers should perform all confined space entries.
- f. One person should remain outside the confined space at all times.
- g. If a hazardous condition occurs or is encountered, evacuate immediately and report to your supervisor.

Confined spaces are dangerous work environments and should always be treated with extreme caution. This policy attempts to provide safe procedures for entry and work in confined spaces, however, there are some confined spaces that are more dangerous and may not be appropriate for any entry. Before entering these spaces will be allowed, the employee's direct Supervisor must review and approve of that entry by PC employees.

Also note that any employee who feels unsafe or uncomfortable about entering a confined space cannot be forced to enter the space and perform the work. Some employees are claustrophobic and have a fear of confined spaces or the employee may fear the spaces for other reasons. Do not force or command anyone to enter a confined space.

APPENDIX #1

PARTIAL LIST OF CONFINED SPACES

The following list of confined spaces are identified here to help employees become familiar with some of the known confined spaces on Campus. There may be confined spaces that are not known until encountered in the course of your work. In these instances it is the responsibility of the employee to bring these situations to his/her supervisor so the proper protective equipment can be issued and the confined space entry permit completed.

Power Plant

1. Generator Room Crawlspace
2. Chiller Room B Pit
3. Holding Tank Pit
4. Boiler Blowdown Tank
5. # 2 Condensate Receiver
6. Holding Tank
7. # 2 Air Receiver
8. # 5&6 Cooling Towers
9. # 1 Condensate Receiver
10. # 3,4,9,10,11, & 12 Boilers – Firesides & Watersides
11. #3 Tower & Indoor Sump
12. UST's 1, 10 & 11 – Tank Interior & Piping Sumps
13. Stack & Stack Base
14. Breeching(s)
15. Crawlspace which is accessible from the Engineers Office

Schneider Arena

1. Crawl space - back entrance to the left, where hose clamp connects to pipe under the ice floor.
2. Cooling tower - inspections
3. Domestic Hot Water Tank (DHWT) – inspections

Other Buildings

Crawl spaces; Domestic hot water tanks; Grease pits; HVAC units; Duct work and breachings.

Manholes - Electrical, Water, Sewer and Telecommunication

Providence College shall inform all potential entrants of permit spaces, by posting danger signs or by other equally effective means, of the existence and location of and the danger posed by the permit spaces. (Note: A sign reading “DANGER-PERMIT REQUIRED CONFINED SPACE-DO NOT ENTER” would satisfy this requirement).

This list is not comprehensive and employees may discover additional confined spaces. It should also be noted that non-permit required spaces may become permit required confined spaces according to the type of work being performed (i.e. welding in a non-permit confined space can create a hazardous atmosphere, thus making it a permit confined space).