



Environmental Health and Safety

Environmental Health and Safety  
Western Michigan University  
Kalamazoo MI 49008-5485 USA  
(269) 387-5590

# Confined Space Entry Policy

## CONFINED SPACE ENTRY POLICY

### **Purpose**

The purpose of this confined space policy is to protect Western Michigan University (WMU) employees who enter confined spaces. In addition, this policy ensures compliance with MIOSHA Part 90 and OSHA 29CFR1910.146 requirements.

### **Scope**

This program shall cover all WMU employees who may be required to enter a confined space. All contractors must have their own confined space entry program, which is comparable to this policy. Contractors are responsible for providing their confined space entry program to WMU and must also be familiar with the WMU policy.

### **Definitions**

**Acceptable entry conditions:** The conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

**Attendant:** An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties as noted in this WMU confined space policy.

**Authorized entrant:** An employee who is authorized by the employer to enter a permit space.

**Alternate permit space:** An alternate permit space exists when the following conditions are met:

1. The only hazard posed by the permit space is an actual or potentially hazardous atmosphere.

2. Continuous forced air ventilation alone is sufficient to maintain the space safe for entry.

3. Monitoring and testing verify that the above two conditions are met.

**Confined space:** Confined spaces may include, but are not limited to storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, trenches, tunnels, pits, tubs, vaults, vessels, silos, and hoppers. A confined space has the following three characteristics:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work.

2. Has limited or restricted means for entry or exit.

3. Is not designed for continuous employee occupancy.

**Engulfment:** Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

**Entry Supervisor:** The person (such as the foreman, crew chief, or other trained person) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned. The entry supervisor authorizes entry, oversees entry operations, and terminates entry.

**Non-permit confined space:** A confined space that does not contain or, with respect to atmospheric hazards, has the potential to contain any hazard capable of causing death or serious physical harm.

**Permit-required confined space (permit space):** A permit space must have all three characteristics of a confined space and the space must have at least one of the following characteristics:

1. Contains or has the 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.

**Prohibited condition:** Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

## **Employer's Responsibilities**

### **A. Environmental Health and Safety Responsibilities**

1. Environmental Health and Safety (EHS) shall evaluate the workplace to determine if any spaces are permit-required confined spaces.

2. EHS shall inform exposed employees by posting of danger signs or by a listing of the existence and location of and the danger posed by the permit spaces. Information regarding location of confined spaces can be obtained from departmental supervisors.

3. EHS shall conduct training or oversee training performed by qualified individuals selected by EHS for all exposed employees on safe entry procedures, atmospheric monitoring, and rescue procedures.

4. EHS shall also conduct training whenever there is a change in permit space operations that presents hazard(s) about which an employee has not been previously trained, or whenever the employer has reason to believe that there are deviations from permit entry procedures or that there are inadequacies in the employee's knowledge or use of these procedures.

5. A file containing the terminated authorized Confined Space Entry Permits shall be maintained by the office of Environmental Health and Safety.

#### B. Departmental Responsibilities

1. Each department involved in confined space entry shall provide and maintain the equipment necessary to work safely in confined spaces.

2. Contract Administrator Responsibilities: The WMU contract administrator shall inform contractors of the existence of confined spaces at WMU.

3. The WMU contract administrator shall provide a copy of this confined space entry policy to contractors who will be entering confined spaces at WMU and receive a copy of the contractor's confined space policy. The contract administrator shall inform the contractor that entry into the confined space is allowed only through compliance with a permit space program meeting the MIOSHA Part 90 and OSHA 29CFR1910.146 requirements.

4. The WMU contract administrator shall coordinate entry when both WMU and contractor personnel will be entering the same confined space at the same time.

5. Prior to entry, the contract administrator must contact the WMU region supervisor in which the permit space is located. The region supervisor shall inform the contractor of the identified hazards and any precautions or procedures that have been implemented for the protection of employees working in or near permit spaces.

6. The WMU contract administrator shall also confer with the contractor at the conclusion of the entry operations regarding the permit space program followed and any hazards confronted or created during entry operations.

### C. Employee Responsibilities

All persons involved in an operation requiring entry into permit-required confined spaces (PRCS) must adhere to the PRCS entry procedures listed in this policy. Alternate entry into permit spaces must follow the alternate entry procedure list in this policy.

### Violations

Failure to comply with this policy shall result in a violation of Western Michigan University Human Resources Rules of Conduct, Section 1F.

### Duties

#### A. Authorized Entrant:

1. Know the hazards that may be faced during entry.
2. Recognize signs and symptoms of exposure.
3. Properly use the equipment.
4. Communicate with the Attendant as necessary to enable the Attendant to monitor Authorized Entrant status and to enable the Attendant to alert Authorized Entrants of the need to evacuate the space.
5. Alert the Attendant whenever warning signs or symptoms of exposure to a dangerous situation are recognized or a prohibited condition is detected.
6. Exit from the space as quickly as possible whenever:
  - a. An order to evacuate is given by the Attendant or the Entry Supervisor.
  - b. Any warning signs or symptoms of exposure to a dangerous situation are recognized.
  - c. A prohibited condition is detected.
  - d. An evacuation alarm is activated.

#### B. Attendant:

1. Know the hazards that may be faced during entry.
2. Be aware of possible behavioral effects of hazard exposure in Authorized Entrants.

3. Continuously maintain an accurate count of Authorized Entrants in the confined space.
4. Remain outside the permit space during entry operations until relieved by another Attendant.
5. Communicate with Authorized Entrants as necessary to adequately monitor their status.
6. Monitor activities inside and outside the confined space and order Authorized Entrants to evacuate when necessary.
7. Summon rescue services if needed (use portable radio or phone).
8. Keep unauthorized persons out of the permit space.
9. Perform non-entry rescues as specified by the employer's rescue procedure.
10. Do not perform any duties that might interfere with monitoring duties.

C. Entry Supervisor (permit required-entry only):

1. Know the hazards that may be faced during entry.
2. Verify by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted, and that all procedures and equipment are in place before endorsing the permit and allowing entry to begin.
3. Terminate entry and cancel the permit as required.
4. Verify rescue services are available and that the means for summoning them are operable.
5. Remove unauthorized individuals who enter or attempt to enter the permit space during operations.
6. See that entry operations remain consistent with the permit.

**Permit-Required Confined Space Procedures**

1. Before any Authorized Entrant is allowed to enter a confined space, a Confined Space Entry Permit must be issued by the Entry Supervisor (see attached permit)
2. Before entering the confined space the Confined Space Entry Permit shall be posted at the site. The permit shall remain posted at all times until the entry is terminated. The confined space opening shall be promptly guarded

by a railing 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.

3. Prior to issuance of the entry permit appropriate atmospheric testing must be conducted. A new permit must be issued whenever re-entry is to occur (such as after exiting for breaks or to obtain tools or materials). The individual(s) doing the atmospheric testing must be trained in the use of the testing instruments. Test meters shall be maintained properly and calibrated as required by the manufacturer. The individual(s) doing the pre-entry monitoring shall do so from outside the confined space.

4. The atmosphere inside the space shall be measured at three levels: top, middle, and bottom. The following atmospheric criteria must be met prior to entering a confined space:

a. Oxygen concentration is between 19.5%-22% by volume.

b. Flammability characteristics are no more than 10% LEL.

c. Carbon Monoxide levels are < 35 ppm.

d. Toxicity levels do not exceed contamination levels referenced in 29CFR Part 1910 Subpart Z.

e. Temperature does not exceed 1200 F.

5. In-house entry rescue teams must be put on notice of a PRCS entry prior to the entry. All rescue equipment will be in place at the PRCS site prior to entry. The rescue team shall be summoned by the Attendant or Entry Supervisor whenever the Authorized Entrant inside the confined space is unable to exit on his own or with the assistance of another Authorized Entrant inside the space. The Attendant may assist with the rescue only from outside the confined space. The Attendant may not enter the confined space for any reason.

6. An atmospheric monitor shall be worn continuously by at least one of the employees in the confined space. If the space is compartmentalized, then at least one employee in each compartment shall wear a monitor.

7. If the initial monitoring is acceptable but the space is unpredictable, for instance where atmospheric conditions can change (active sewers, sumps, organic wastes, hot work or tasks which might generate gases, fumes, vapors, or dust), then continuous forced-air ventilation shall be supplied.

8. If tests indicate that the atmosphere is unsafe, the confined space shall be supplied with fresh air from a continuous forced air ventilation device adequate for the volume of the space to bring the atmospheric conditions within permissible ranges.

9. After ventilating the space the atmosphere must be re-tested and no person shall be allowed to enter the confined space until the tests indicate the atmosphere meets the criteria set forth in VIII. 4.
10. If at any time a hazardous atmosphere is detected during entry:
  - a. The Authorized Entrants shall exit immediately.
  - b. The space shall be evaluated to determine how the hazardous atmosphere developed.
  - c. Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.
11. A new entry permit must be issued and authorized if any changes are to be made in the type of work to take place inside the confined space that was not noted on the initial entry permit. For instance, a decision to perform hot work or tasks which might generate gases, fumes, vapors, or the entry of another Authorized Entrant not listed on the initial permit would require that a new permit be issued.
12. Each Authorized Entrant entering the confined space shall follow the University lockout procedure for all applicable energy sources. All fluid and gas lines into the space must be disconnected and/or blanked prior to work being performed in the space. If discharge lines present a backflow possibility then those lines must be disconnected or blanked.
13. Each Authorized Entrant must use a full-body harness with attached retrieval lines. The retrieval lines must be attached to appropriate rescue devices and anchor points. The full-body harness and retrieval lines must be worn for all PRCS entry unless the Entry Supervisor has determined that retrieval lines are impractical, would increase the overall risk of entry, or would not contribute to the rescue of the Entrant.
14. Each Authorized Entrant shall wear personal protective equipment appropriate to the conditions in the space.
15. Upon termination of the entry the department issuing the permit shall forward the permit to Environmental Health and Safety.
16. The Division of Environmental Health and Safety shall be consulted if chemicals will be used or fumes or gases will be generated in the space.

### **Alternate Permit Space Procedures**

1. Continuous forced air ventilation adequate for the space must be maintained.
2. Rescue equipment need not be on-site for alternate entry.

3. Before any Authorized Entrant is allowed to enter an alternate permit space, an Alternate Confined Space Entry Permit must be completed. The Entry Permit shall be posted at the site. The permit shall remain posted at all times.
4. Before entering the alternate permit space the Alternate Confined Space opening shall be promptly guarded by a railing or other temporary barrier that will prevent an accidental fall through the opening and that will protect each Authorized Entrant working in the space from foreign objects entering the space.
5. Prior to the issuance of the alternate entry permit appropriate atmospheric testing must be conducted. A new permit must be issued whenever re-entry is to occur (such as after exiting for breaks or to obtain tools or materials). The individual(s) doing the atmospheric testing must be trained in the use of the testing instruments. The readings on the meter must register acceptable criteria as listed on the permit. Test meters shall be maintained properly and calibrated as required by the manufacturer. The individual(s) doing the pre-entry monitoring shall do so from outside the confined space.
6. The atmosphere inside the space shall be measured at three levels: top, middle, and bottom. The following atmospheric criteria must be met prior to entering a confined space and during the confined space entry:
  - a. Oxygen concentration is between 19.5%-22% by volume.
  - b. Flammability characteristics are no more than 10% LEL.
  - c. Carbon Monoxide levels are < 35 ppm.
  - d. Toxicity levels do not exceed contamination levels referenced in 29CFR Part 1910 Subpart Z.
  - e. Temperature does not exceed 1200 F.
7. An atmospheric monitor shall be worn continuously by at least one Authorized Entrant in the confined space. If the space is compartmentalized, at least one Authorized Entrant in each compartment shall wear a monitor. The Authorized Entrant shall record monitor readings on the alternate entry permit at the time intervals indicated (Authorized Entrant will relay readings to the Attendant because the permit is to be kept outside the confined space).
8. If at any time a hazardous atmosphere is detected during entry:
  - a. The Authorized Entrants shall exit immediately.
  - b. The space shall be evaluated to determine how the hazardous atmosphere developed.



- c. Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.
9. A new alternate entry permit must be issued and authorized if any changes are to be made in the type of work to take place inside the confined space that were not noted on the initial entry permit. For instance, a decision to perform hot work or tasks, which might generate gases, fumes, vapors, or the entry of another Authorized Entrant not listed on the initial permit would require that a new permit be issued.
10. Each Authorized Entrant entering the confined space shall follow the University lockout procedure for all applicable energy sources. All fluid and gas lines into the space must be disconnected and/or blanked prior to work being performed in the space. If discharge lines present a backflow possibility then those lines must be disconnected or blanked.
11. Each Authorized Entrant shall wear personal protective equipment appropriate to the conditions in the space.
12. An Attendant must be stationed outside the space and maintain communication with the Authorized Entrant.
13. Upon termination of the entry the department issuing the permit shall forward the permit to Environmental Health and Safety.
14. The Division of Environmental Health and Safety shall be consulted if chemicals will be used or fumes or gases will be generated in the space.

Revised 10/19/2011

---

Western Michigan University  
Kalamazoo MI 49008-5200 USA  
(269) 387-1000  
Contact WMU

WMU Notice of Non-Discrimination  
Land Acknowledgment Statement

© 2023 All rights reserved.