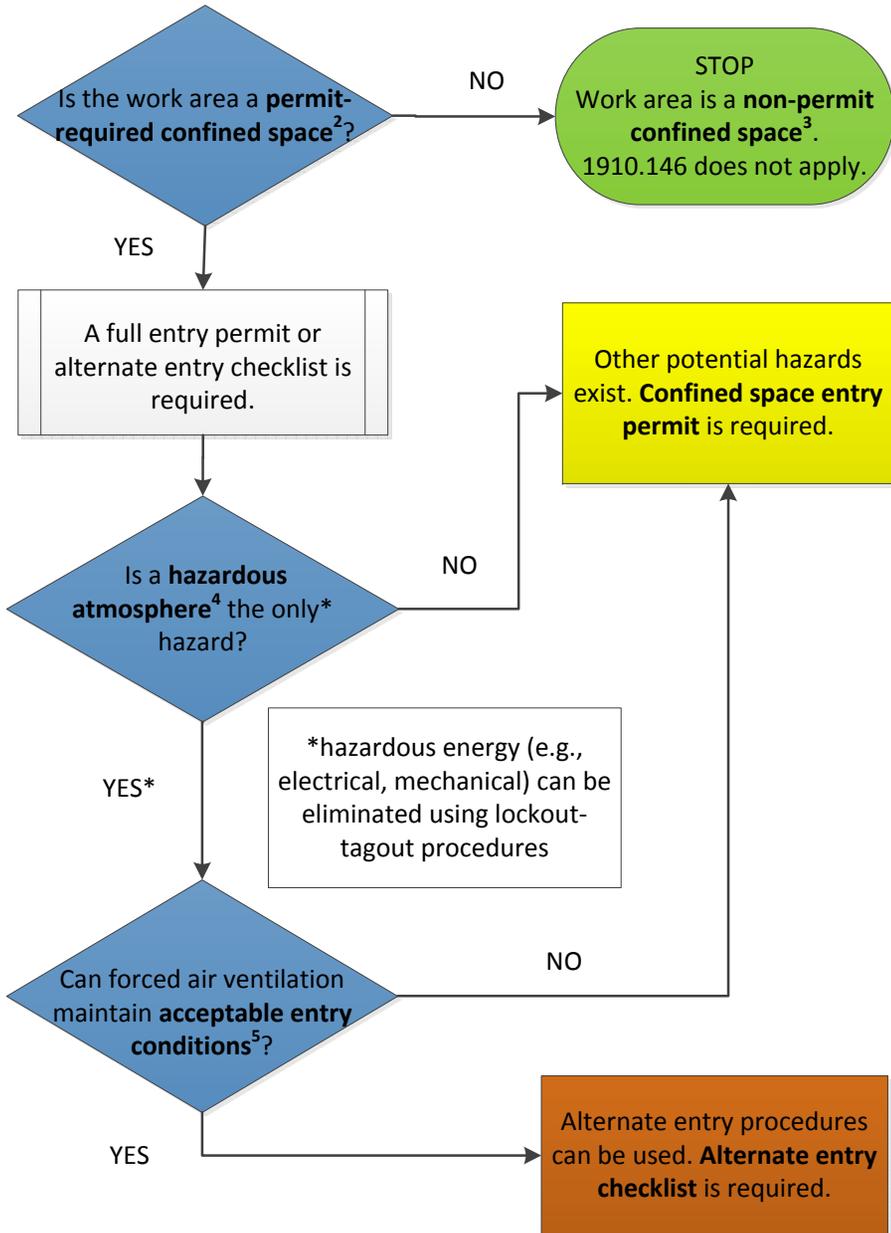


Confined Space Field Guide

Classification flow chart: use to determine if a confined space¹ requires an entry permit or alternate entry checklist.



Key Definitions (1910.146 citations)

1. Confined Space (b), (c)

A work area that has all three of these features.

- A. The space must have a size and shape that allow a person to bodily enter it and perform work.
- B. The space must have limited or restricted entry and egress.
- C. The space must not be designed for continuous human occupancy.

2. Permit-required Confined Space (b), (d)-(f), (h)-(k)

A confined space (permit space) that has at least one of the following characteristics:

- A. The potential to contain a hazardous atmosphere either naturally or from any activity conducted during entry and work.
- B. Contains a liquid or finely-divided solid material such as sand or sawdust that could surround or engulf an entrant.
- C. An internal shape, such as inwardly converging walls or a floor that slopes downward and tapers to a smaller cross section that could cause an entrant to be trapped or asphyxiated.
- D. Any other characteristic that is recognized as a serious safety or health hazard, such as thermal, chemical, electrical or mechanical hazards.

3. Non-Permit Confined Space (b), (c)(7)

A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazards capable of causing death or serious physical harm.

4. Hazardous Atmosphere (b), (c)(5)(i)(A)

Any atmosphere that may expose employees to risk of death or injury from one or more of the following causes:

- A. flammable gas, vapor, or mist in excess of 10% of its lower explosive limit (LEL).
- B. Airborne combustible dust at a concentration that meets or exceeds its LEL. A condition approximated to be when dust obscures vision at a distance of 5 feet or less.
- C. Atmospheric oxygen below 19.5% or above 23.5%.
- D. Any other atmospheric condition that exceeds published occupational exposure limits (e.g., OSHA PELs) or is immediately dangerous to life or health (IDLH).

5. Acceptable Entry Conditions (b), (c)(5)(i)(B), (d)(3)-(4)

The conditions that must exist in a permit space to allow entry and to ensure that employees can safely enter into and work within the space. Specific atmospheric conditions are listed on the Confined Space Entry Permit.

Alternate Entry Procedures (c)(5)(ii), (c)(6)

The following procedures will be used if a permit-required confined space has been documented as being eligible for alternate entry. Re-evaluation is required if there are changes in the use or configuration of the space that might increase the hazards to entrants. RMSO strongly recommends that at least one employee remain outside of the confined space as an attendant.

1. Fill out an Alternate Entry Checklist before entry begins.
2. Evaluate the known hazards and prepare control measures including gathering required equipment. (e.g., calibrate or bump test the gas monitor)
3. Guard the opening promptly to prevent individuals and objects from falling into the space.
4. Test the internal atmosphere before any employee enters the space.
5. Use continuous forced air ventilation if an atmospheric hazard exists. No employee may enter the space until acceptable entry conditions are attained. Continue until all employees have left the space.
6. Use a retrieval system, if needed, PPE and communication methods.
7. Test the atmosphere periodically (at least every hour) to detect an accumulation of a hazardous atmosphere.
8. When work is complete secure the space and remove guards.
9. Submit the completed Alternate Entry Checklist to the Entry Supervisor for record keeping.

Emergency Procedures

If a hazardous atmosphere or any other serious hazard is detected during entry:

1. Evacuate the confined space immediately, if possible
2. Do not enter the confined space to attempt rescue
3. Call 911 (or radio the PPL service desk)
4. Report to the entry supervisor
5. Do not reenter the confined space until it has been reevaluated by the entry supervisor or RMSO

Permit Space Procedures (d)-(k)

The following procedures will be used in permit-required confined spaces not eligible for alternate entry. Every job that requires entry into a permit-required confined space will have an entry supervisor, attendant and entrant. Consider alternatives to confined space entry. If entry is necessary then follow these procedures.

1. Fill out a Confined Space Entry Permit and post at the work site before entry.
- Steps 2 through 6 are the same as the alternate entry procedures.
7. Monitor the atmosphere continuously to prevent accumulation of a hazardous atmosphere. Document conditions at least once an hour on the entry permit.
 8. Use lockout/tagout procedures to eliminate mechanical, electrical, water and other identified hazards before entering the space when possible.
 9. An attendant must be present and monitoring the entry at all times.
 10. When work is complete secure the space and remove guards.
 11. Submit the completed Confined Space Entry Permit to the Entry Supervisor for record keeping.

Symptoms of Exposure to Atmospheric Hazards

Increased respiration and pulse
Impaired judgment and coordination
Dizziness / Lightheadedness
Headache
Fatigue
Irritated eye, nose, throat, skin
Cough
Nausea
Unconsciousness
Fainting

Symptoms of Exposure to Heat Stress

Skin rashes
Muscle cramps / spasms
Abdominal pain
Heavy sweating
Headache
Dizziness
Weakness
Irritability
Confusion
Fainting

Heat Stroke: red, hot, dry skin, no sweating