

# RISK CONTROL CONSULTING

## Confined Space

Many workplaces have confined spaces, such as a basement crawl space, storage containers, and ventilated vaults. However, some contain a hazardous atmosphere that has the potential to engulf an entrant (oxygen deficient, toxic gases), trap or asphyxiate an entrant or contain other safety or health hazards such as live exposed wires, unguarded machinery, or heat stress. These areas are referred to as “permit-required confined space”.

By definition, a *confined space* must have:

- 1) limited entry or exit openings, *and*
- 2) is large enough for entering and working within the area, *and*
- 3) is not designed for continuous worker occupancy

To protect your employees, steps must be taken to evaluate your workplace a determine which areas are *non-permit confined spaces* and which ones are *permit-required confined spaces*. The flowchart below will help to facilitate compliance with this requirement.

**Does the space have one or more of the following HAZARDS:**

<b>Hazardous Atmosphere</b>	Yes	No	Flammable gas, vapor, or mist in excess of 10% LEL (Methane, natural gas etc.)
	Yes	No	Airborne combustible dust @ a concentration that meets or exceeds its LEL *Approximated as a condition in which the dust obscures vision @ a distance of 5 feet or less
	Yes	No	Oxygen concentration below 19.5% or above 23.5% Oxygen deficient (rust, organic matter) Oxygen enriched (oxygen tanks/in feed lines)
	Yes	No	An atmospheric concentration of any substance for which a PEL is published & has the potential to cause death, injury/illness, or impair an entrant’s ability to escape Toxic Gas / Vapor – example: Carbon Monoxide, Hydrogen sulfide, chlorine, acid
<b>Engulfment</b>	Yes	No	Contain a material that has the potential for engulfing an entrant
<b>Entrapment</b>	Yes	No	Has an internal configuration that could trap the entrant (converging walls, steep tapers, etc.)
<b>Other</b>	Yes	No	Any other SERIOUS Safety or Health Hazard.
	Yes	No	Fall Hazard greater than 4 feet
	Yes	No	Temperature extreme – Hot or Cold
	Yes	No	Mechanical movement – belts, agitators, pumps
	Yes	No	Chemical contact (either with chemicals previously stored in the space, or chemicals to be used during cleaning of the space)
	Yes	No	Electrical Hazards
	Yes	No	Adjacent operations near tank vents
			Other:



If you have circled **Yes** to any of the above, you have a **PERMIT REQUIRED confined space**.

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For a comprehensive confined space survey and classification guide, please see our document “Confined Space Survey Guide”.

## PERMIT REQUIRED CONFINED SPACES

If you have permit required confined spaces, *and you decide to allow employees to enter permit spaces*, you must establish a written plan and properly train employees. Components of the program should include:

- Person(s) responsible for the confined space program.
- Measures to prevent unauthorized entry.
- Written entry permit forms and procedures.
- Procedures and practices necessary for safe permit space entry.
- Training for entrants, attendants, and supervisors.
- Atmospheric testing and monitoring using calibrated equipment.
- Ventilation methods
- Providing barriers to protect entrants from external hazards.
- Communication equipment required.
- Personal protective equipment required.
- Non-entry rescue methods and equipment required.
- Inventory of confined spaces.

### **Permit Required Confined Spaces Examples:**

- Manholes
- Septic tanks
- Water tanks
- Unventilated vaults
- Boilers
- Pits and excavations

## If Employees Will NOT Enter Permit Spaces

If you decide *your employees will not enter permit spaces*, steps must be taken to educate exposed employees and safeguard those areas. This includes:

1. Evaluating the workplace to determine if any spaces are permit-required confined spaces.
2. Informing exposed employees, by posting danger signs or by any other equally effective means, of the existence and location of and the danger posed by the permit spaces.
3. Reevaluating the space when there are changes in use or configuration of non-permit confined spaces. If necessary, reclassifying it as permit-required confined space.

**Note:** If an employer (host employer) arranges to have employees of another employer (contractor) perform work that involves permit space entry, the host employer must take the following precautions to ensure the safety of the contractor’s employee(s):

1. Host employer must inform the contractor that the workplace contains permit spaces and entry is allowed by complying with a permit space program.
2. Notify the contractor of the elements (hazards identified) and the host employer’s experience with the space, making it a permit space.

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3. Inform contractor of precautions or procedures the host employer has implemented for the protection of employees in or near permit spaces.
4. Coordinate entry operations when both host employer personnel and contractor or contractors' personnel will be working in or near permit spaces.
5. Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and any hazards confronted or created in permit spaces during entry operations.

As a best practice, obtain certificates of insurance from the contractor ensuring coverage for workers' compensation and general liability.

## Contractor Duties

The contractor, retained to perform permit space entry operations, must perform due diligence by:

- Obtaining any available information from the host employer.
- Coordinating entry operations with the host employer (when both the host employer personnel and contractor personnel will be working in or near permit spaces.
- Inform the host employer of the permit space program they will follow and any hazards confronted or created in the permit spaces (through debriefing or during the entry operation).

## NON-PERMIT REQUIRED CONFINED SPACE

*Non-permit required confined space* means the space does not contain or have the potential to contain any hazard capable of causing death or serious physical harm.

## References and Resources:

[OSHA 1910.146 Permit-Required Confined Spaces](#)

[Procedures for Atmospheric Testing in Confined Spaces](#) – OSHA Fact Sheet

[Confined Spaces Advisor](#) – Guidance to help determine if a space is covered by OSHA's Permit-Required Confined Spaces regulation

[OSHA Permit-Required Confined Spaces](#) – Handbook (2004)

[Hydrogen Sulfide](#) – Hazards, where its found in workplaces, controlling the exposure.

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This Tribal First Risk Control Consulting fact sheet is not intended to be exhaustive. The discussion and best practices suggested herein should not be regarded as legal advice. Readers should pursue legal counsel or contact their insurance providers to gain more exhaustive advice. For more information on this topic, please contact Tribal First Risk Control Consulting at (888) 737-4752 or [riskcontrol@tribalfirst.com](mailto:riskcontrol@tribalfirst.com).