

Confined Space Rescue Demo

What is a Confined Space?

1. Big enough to enter and perform work
2. Limited or restricted entry or exit
3. Not designed for continuous human occupancy

What is a Permit Required Confined Space?

1. Contains or has the potential to contain a hazardous atmosphere
2. Contains or has the potential of engulfing and entrant
3. Has the ability to entrap or asphyxiate an entrant
4. Contains any other recognized serious safety and health hazard

When is rescue required in a confined space per the standard?

1. If a hazardous atmosphere is detected the employee must leave the space immediately (**self rescue**).
2. In Permit Required Confined Spaces, employers must **develop and implement procedures** for summoning rescue and emergency services, for rescuing entrants, for providing necessary emergency services to rescue employees and for preventing unauthorized entry to perform an attempted rescue. The employer determines when rescue is needed based on the evaluation of the confined space per part K
3. All entrants must be attached to a retrieval system UNLESS it presents a greater hazard (**assisted rescue**). Requires a harness and mechanical retrieval device for vertical spaces over 5 feet in depth.
4. OSHA believes that compliance with all of 1910.146 will enable employers to conduct Permit Confined Space operations without recourse to rescue services in nearly all cases.

What are the requirements for a rescue team per the standard?

The employer must do the following for an OFF SITE TEAM:

1. Evaluate the rescue team ability to respond to a summons in a timely manner.
2. Evaluate their ability to perform rescue tasks and utilize needed equipment from their types of rescue needs.
3. Determine the team has the ability to reach a victim within appropriate time.
4. Ensure the team is equipped and trained to perform an entry rescue.
5. Inform the rescue team of hazards of the site.
6. Provide direct access to all permit spaces from which the team is expected to conduct rescues in as well as the ability to practice in the spaces.

The employer must do the following for an ON SITE EMPLOYEE TEAM:

1. Provide any ppe needed to conduct a rescue or train in the spaces and at no cost.
2. Train members in rescue techniques and proper confined space entry work.
3. Train at least 1 team member in first aid and CPR.
4. Ensure that team members practice at least annually in those spaces required to perform rescues or similar spaces.

What is the typical equipment used in a vertical confined space entry?

1. Tripod, winch, air monitor and a blower.

Things to consider: overhead room to set up a tripod, open top tank where a tripod cannot set over the opening, large opening to where a tripod cannot set up directly above, 2 entrants and only 1 winch, round top or beveled top tank that will not allow a tripod to set up safely, offset opening that a tripod cannot work for retrieval, time to crank a worker from the space, entanglement of line

What is the typical equipment used in a horizontal confined space entry?

1. Rope, air monitor and blower.

Things to consider: ability for an attendant to physically pull an entrant out with a rope (mechanical advantage), what anchor is being used and where is it, how far is the entrant inside the space, where is the retrieval line attached that will not cause a binding or entrapment of the entrant upon retrieval, entrants ability to slide or be pulled and not cause further injury or excessive force

Rescue team considerations:

1. Is the employers equipment capable of being used, in good shape and with thorough understanding of use
2. Is there a permit posted and can it be trusted or is information valuable, team must complete their own rescue permit and post at the entry point
3. Is ventilation in place and can it be trusted, is it capable of being compromised or can it be safely monitored, is it adequate for the size of the space, amount of time needed to turn the air over inside the space, provide additional air supply
4. Team must perform parallel air monitoring prior to rescue entry and ideally monitor entrants also
5. Team must have secondary entry and retrieval methods in place and for consideration of entrant extraction
6. Explosion proof lighting for rescue team
7. Supplied air for rescue team if unknown atmosphere is present or suspected bad air, ability to make entry while on supplied air without removing it
8. Special patient packaging skills, techniques or equipment needs
9. Escape air packs for backup, escape air for placement on a victim
10. Ability to enter and retrieve multiple rescue team entrants, different anchors, strength known or surmised, entanglement of entry lines or even air lines
11. Specialized retrieval equipment such as a tripod, 5 piece, davit arm, horizontal pole hoist, mechanical advantage, fall arrest
12. Backup rescue entrants for those making entry
13. Grab and go verses a patient packaging
14. Ultimately the reason the entrant needs assistance, conscious and alert, unresponsive

Failures:

1. Holding your breath trying to make a rescue
2. Not conducting air monitoring to determine hazards for your rescue team
3. Utilizing a single rope attached to a victim or rescuer and an outside team members belief they can pull that person out if needed

4. No backup air supply or emergency plan for team
5. Not practicing regularly with the equipment to be used
6. Not completing permits and checks and balance sheets
7. Not having a rescue team on site and ready to perform a rescue in a timely manner
8. Not utilizing emergency escape air systems for all entrants and rescuers
9. Not having multiple ways to mechanically remove or lower a victim or rescuer
10. Lack of training for all workers