CONFINED SPACES || Confined Space Rescue

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Permit-required confined spaces can present conditions that are immediately dangerous to workers' lives or health if not properly identified, evaluated, tested, and controlled.

- Effective emergency planning is vital to ensure that any worker in a confined space (the *entrant*) who becomes sick or is injured can be evacuated quickly and safely.
- A rescue plan must be created and implemented to ensure everyone at the job site is prepared in advance if there is an emergency in a permit-required confined space.

OSHA Standard 1910.146(d)(9) The employer *shall develop and implement procedures for summoning rescue and emergency services, for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees, and for preventing unauthorized personnel from attempting a rescue.*

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

But, a **permit-required confined space**, also referred to as a "permit space," has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere
2. Contains a material that has the potential for engulfing an entrant
3. Is configured in a way that could cause a person to be trapped or suffocate
4. Contains any other recognized serious safety or health hazard

Authorized entrants who enter a permit-required confined space must wear a chest or full body harness with a retrieval line attached to the center of their backs near shoulder level or above their heads.

- Wristlets may be used if the employer can demonstrate that the use of a chest or full body harness is not feasible or creates a greater hazard.
- The other end of the retrieval line will be attached to a mechanical device or a fixed point outside the permit space.
- A mechanical device must be available to retrieve someone from vertical type permit spaces more than five feet deep.

Whenever a worker is in a permit-required confined space, there must be an attendant outside the space who must maintain communication with all entrants and keep track of their condition.

- If any entrant suffers an injury or illness and is unable to exit the space without help, the attendant will initiate a rescue.

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OSHA Standard 1910.146(i)(7) A duty of the confined space attendant is to *summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.*

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Pre-rescue planning, communication, and effective coordination of rescue activities are critical in the event that a life-threatening incident should occur inside of a permit space.

OSHA Standard 1910.146(k)(2)(iii) *The employer shall ensure that at least one member of the rescue team or service holding a current certification in basic first aid and CPR is available.*

- Confined space rescue responders must be capable of responding to an emergency in a timely manner.
- Rescue service personnel must have personal protective and rescue equipment, including respirators, and should have received training on using the equipment.
- All rescuers should be trained in first aid and CPR, and at a minimum one rescue team member must be currently certified in first aid and CPR.
- Practice rescue exercises should be conducted annually. Rescue services should be provided access to permit spaces so they can practice rescue operations.
- Rescuers must always be informed ahead of time of the hazards of the confined space they may be entering.

It is always preferable to perform a non-entry confined space rescue, if possible.

- The non-entry rescue avoids having additional personnel exposed to the hazard that caused the injury or illness.
- Rescue procedures must provide for non-entry rescue using retrieval equipment unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. (Example: when obstructions can snag the retrieval line, or the line can become entangled with air lines or electric cords.)
- When non-entry rescue is an option, before the confined space work begins, confirm that emergency assistance will be available if the non-entry rescue fails.

OSHA Standard 1910.146(k)(1)(iii) *The employer shall select a rescue team or service that has the capability to reach the victim(s) within a time frame that is appropriate for the hazard(s) identified and is equipped for and proficient in performing the needed rescue services.*

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When non-entry rescue fails, or is not feasible, trained rescuers must enter the confined space to perform the rescue.

- The rescuers may be an on-site rescue team, or an off-site rescue team that have been notified in advance and are able to get to the job site quickly.
- If the attendant is part of the entry rescue team, a new attendant must be in position before the original attendant enters the space.

Calling on local emergency responders to provide rescue services can be a suitable way of providing for rescues in a permit-required confined space.

- Pre-planning will ensure that the emergency service is capable, available, and prepared.

Before beginning the confined space work operation, while creating the rescue plan, it's critical to spend some time evaluating prospective emergency responders and select one that has:

1. Adequate equipment for rescues, which might include atmospheric monitors, fall protection, extraction equipment, and self-contained breathing apparatus (SCBA) for the particular permit-required confined spaces.
2. The ability to respond and conduct a rescue in a timely manner based on the site conditions.
3. The capability of conducting a rescue if faced with potential hazards specific to the confined space which may include:
   - Atmospheric hazards like flammable vapors or low oxygen
   - Electrocution dangers like unprotected, energized wires
   - Flooding or engulfment hazards
   - Poor lighting
   - Fall hazards
   - Chemical hazards

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