

CONFINED SPACE ENTRY



Background

- ▶ On May 4, 2015, OSHA issued a new standard for construction work in confined spaces
- ▶ The rule became effective on August 3, 2015 - 29 CFT 1926 Subpart AA
- ▶ Prior to the rule becoming effective, no real standard

What is a Confined Space?

- ▶ A confined space is a space that meets the following definition:
 - ▶ Is large enough and so configured that an employee can bodily enter it;
 - ▶ Has limited or restricted means for entry and exit; and
 - ▶ Is not designed for continuous employee occupancy.
- ▶ *Limited or restricted means for entry or exit* - a condition that has a potential to impede an employee's movement into or out of a confined space.

Such conditions include, but are not limited to, trip hazards, poor illumination, slippery floors, inclining surfaces and ladders.

Important Definitions

- ▶ The confined space is considered *permit required* if it has one or more of the following:
 - ▶ Contains or has a potential to contain a hazardous atmosphere;
 - ▶ Contains a material that has the potential for engulfing an entrant;
 - ▶ 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
 - ▶ Contains any other recognized serious safety or health hazard.

Important Definitions

- ▶ *Hazardous atmosphere* means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:
 - ▶ Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
 - ▶ Airborne combustible dust at a concentration that meets or exceeds its LFL;
 - ▶ Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
 - ▶ Atmospheric concentration of any substance for which a dose or a permissible exposure limit and which could result in employee exposure in excess of its dose or permissible exposure limit;
- Note:** An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this definition.
- ▶ Any other atmospheric condition that is immediately dangerous to life or health.

Important Definitions

- ▶ *Physical hazard* means an existing or potential hazard that can cause death or serious physical damage. Examples include, but are not limited to:
 - ▶ explosives;
 - ▶ mechanical, electrical, hydraulic and pneumatic energy;
 - ▶ radiation;
 - ▶ temperature extremes;
 - ▶ engulfment;
 - ▶ noise;
 - ▶ and inwardly converging surfaces.
- ▶ Physical hazard also includes chemicals that can cause death or serious physical damage through skin or eye contact (rather than through inhalation).

Permit Required Confined Space?



Expectations

- ▶ Competent person site assessment
- ▶ If the workplace contains one or more permit spaces, the employer who identifies, or who receives notice of, a permit space must:
 - ▶ Inform exposed employees by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, each permit space

"DANGER-PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER"
- ▶ Inform, in a timely manner and in a manner other than posting, its employees' authorized representatives and the controlling contractor of the existence and location of, and the danger posed by, each permit space.

Expectations

- ▶ Employer must ensure unauthorized personnel do not enter confined spaces.
- ▶ If workers will enter, there must be a written confined space program at the site
- ▶ Must be made available prior to and during operations

Alternate Procedures

Employer may use alternate procedures if:

- ▶ All physical hazards are eliminated
- ▶ Atmospheric hazards are controlled with forced air ventilation
- ▶ Continuous or periodic monitoring is conducted

Alternate Procedures

If a hazard is detected during entry:

- ▶ Each employee must leave the space immediately;
- ▶ The space must be evaluated to determine how the hazard developed
- ▶ The employer must implement measures to protect employees from the hazard before any subsequent entry takes place.
- ▶ The employer must ensure a safe method of entering and exiting the space

Alternate Procedures

- ▶ The employer must verify that the space is safe for entry and that the pre-entry measures have been taken
 - ▶ Written certification that contains
 - ▶ Date
 - ▶ Location of the space
 - ▶ Signature of the person providing the certification.
 - ▶ The certification must be made before entry and must be made available to each entrant/entrant's rep.
- ▶ Changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, or some indication that the initial evaluation of the space may not have been adequate requires,
 - ▶ Each entry employer must have a competent person reevaluate that space and,
 - ▶ If necessary, reclassify it as a permit-required confined space.

Reclassifying a Space

- ▶ A space classified by an employer as a permit-required confined space may be reclassified as a non-permit confined space when a competent person determines:
 - ▶ Permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated or isolated without entry into the space (unless the employer can demonstrate that doing so without entry is infeasible)
 - ▶ Employer must eliminate or isolate the hazards without entering the space and must remain in that condition
 - ▶ Control of atmospheric hazards through forced air ventilation does not constitute elimination or isolation of the hazards. (i.e. you must use a permit or use alternate procedures)

Reclassifying a Space

- ▶ Must certify in writing with date, the location of the space, and the signature of the person making the determination.
- ▶ The certification must be made available to each employee entering the space or to that employee's authorized representative
- ▶ If hazards arise within a permit space that has been reclassified as a non-permit space entrants must exit the space. Space must be re-evaluated and classified appropriately

Permit Space Communication/Coordination

- ▶ Before entry operations begin, the host employer must provide the following information, if it has it, to the controlling contractor:
 - ▶ The location of each known permit space
 - ▶ The hazards or potential hazards in each space or the reason it is a permit space
 - ▶ Any precautions that the host employer or any previous controlling contractor or entry employer implemented for the protection of employees in the permit space

Pre-Entry - Controlling Contractor

Before entry operations begin, the controlling contractor must:

- ▶ Obtain the host employer's information about the permit space hazards and previous entry operations
- ▶ Provide the following information to each entity entering a permit space and any other entity at the worksite whose activities could foreseeably result in a hazard in the permit space:
 - ▶ The information received from the host employer
 - ▶ Any additional information the controlling contractor has about spaces and hazards at the site
 - ▶ The precautions that the host employer, controlling contractor, or other entry employers implemented for the protection of employees in the permit spaces

Pre-Entry - Entry Employer

Before entry operations begin, each entry employer must:

- ▶ Obtain all of the controlling contractor's information regarding permit space hazards and entry operations
- ▶ Inform the controlling contractor of the permit space program that the entry employer will follow, including any hazards likely to be confronted or created in each permit space.

Post Entry

- ▶ The controlling contractor must debrief each entity that entered a permit space regarding the permit space program followed and any hazards confronted or created in the permit space(s) during entry operations
- ▶ The entry employer must inform the controlling contractor in a timely manner of the permit space program followed and of any hazards confronted or created in the permit space(s) during entry operations
- ▶ The controlling contractor must apprise the host employer of the information exchanged

Each entry employer must:

- ▶ Provide pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards
- ▶ Verify conditions in the permit space are acceptable for entry throughout the duration of an authorized entry
- ▶ Don't allow entry into hazardous atmospheres unless you can demonstrate PPE is appropriate (permit only)
- ▶ Eliminate any conditions (for example, high pressure) that could make it unsafe to remove an entrance cover

Each entry employer must:

- ▶ Test conditions in the permit space to determine if acceptable entry conditions exist
- ▶ If isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer):
 - ▶ Perform pre-entry testing to the extent feasible before entry is authorized
 - ▶ Provide an early-warning system that continuously monitors for non-isolated engulfment hazards
- ▶ Continuous monitoring required unless:
 - ▶ Equipment for continuously monitoring a hazard is not commercially available
 - ▶ Periodic monitoring is sufficient
- ▶ If continuous monitoring is not used, periodic monitoring is required

Each entry employer must:

- ▶ Provide at least one attendant outside the permit space
- ▶ Attendants may be assigned to more than one permit space if they can effectively perform their duties
- ▶ If multiple spaces are to be assigned to a single attendant, include in the permit program the means and procedures to enable the attendant to respond to an emergency affecting one or more of those permit spaces without distraction from the attendant's responsibilities

Entry Supervisor Duties

- ▶ Identify hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure
- ▶ Verify 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 specified by the permit are in place before endorsing the permit and allowing entry to begin
- ▶ Terminates the entry and cancels or suspends the permit as required
- ▶ Verifies that rescue services are available and that the means for summoning them are operable, and that the employer will be notified as soon as the services become unavailable
- ▶ Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations
- ▶ Determines, whenever responsibility for a permit space entry operation is transferred, and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

Rescue Provisions - External

- ▶ If you elect to use outside resources you must:
 - ▶ Evaluate their ability to respond in a timely manner
 - ▶ Evaluate their proficiency
 - ▶ Notify you if they will not be available
 - ▶ Inform the rescue team of hazards
 - ▶ Give them access to evaluate the spaces

Rescue Provisions - Internal

- ▶ If you will perform rescue with internal personnel you must:
 - ▶ Provide them with PPE and training
 - ▶ Provide rescue training
 - ▶ Train at least 1 rescue member in CPR/First Aid
 - ▶ Simulate rescue

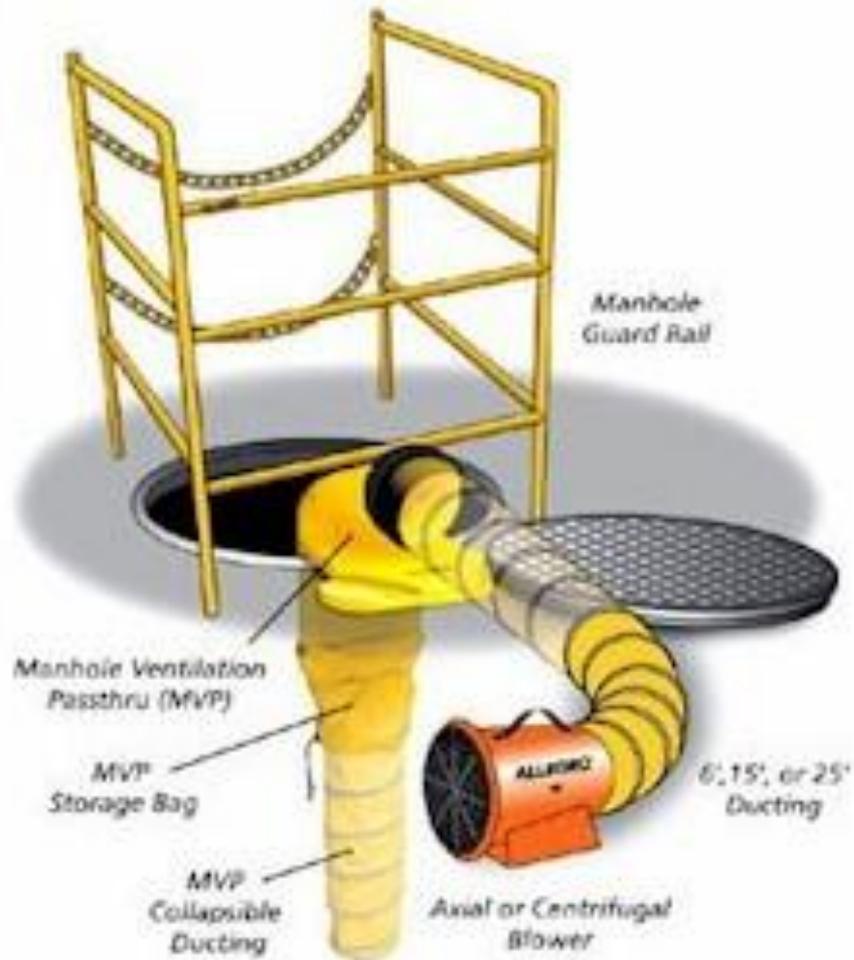
Rescue Provisions

- ▶ Non-entry rescue required unless it creates a greater hazard
- ▶ Must confirm, prior to entry, that emergency assistance would be available if non-entry rescue fails
- ▶ Retrieval systems
 - ▶ Chest or full body harness with retrieval line attached
 - ▶ Wristlets/anklets may be used if necessary
 - ▶ Retrieval line must be attached to a mechanical device or fixed point outside the space in a manner that facilitates immediate rescue
 - ▶ A mechanical device needed for vertical entries 5 ft or deeper
 - ▶ Select appropriate retrieval system (entanglement/internal configuration)
 - ▶ SDS must be available

Ventilation of Confined Spaces

- ▶ Continuous forced air ventilation must be used, as follows:
 - ▶ An employee must not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;
 - ▶ The forced air ventilation must be so directed as to ventilate the immediate areas where an employee is or will be present within the space and must continue until all employees have left the space;
 - ▶ The air supply for the forced air ventilation must be from a clean source and must not increase the hazards in the space

Forced Air Ventilation



Employee Participation

- ▶ Employers must consult with affected employees and their authorized representatives on the development and implementation of all aspects of the permit space program
- ▶ Employers must make available to each affected employee and his/her authorized representatives all information required to be developed by this standard

Training

- ▶ Provide training to each affected employee at no cost
- ▶ Ensure that the employee possesses the understanding, knowledge, and skills necessary
 - ▶ Identify hazards in a permit space
 - ▶ Methods used to isolate, control or protect themselves
 - ▶ For those employees not authorized to perform entry rescues, in the dangers of attempting such rescues
- ▶ Must be in a language they understand
- ▶ Maintain records with employee name, instructor name, and date of class
- ▶ Must be maintained for the duration of employee's employment

QUESTIONS?