

MAJOR PROGRAM POINTS

"CONFINED SPACE ENTRY"

**Training for THE OSHA
PERMIT-REQUIRED CONFINED SPACES STANDARD**

"Quality Safety and Health Products, for Today...and Tomorrow"

Outline of Major Points Covered in the "Confined Space Entry" Course

The following outline summarizes the major points of information presented in the Course on Confined Space Entry. The outline can be used to survey the Course before taking it on a computer, as well as to review the Course when a computer is not available.

- **Confined space entries are never routine. You may:**
 - Use the same equipment.
 - Run the same tests.
 - Even work with the same crew.

- **But the conditions that you face inside are different every time, and may include:**
 - Low oxygen levels.
 - Gas leaks.
 - Toxic fumes.

- **In many situations these hazards can knock you out in a heartbeat.**
 - Because of the dangers, OSHA created the Permit-Required Confined Space Regulation.

- **Confined spaces are large enough for a person to enter, but access is physically limited or restricted.**
 - They are large enough to work in.
 - But are not designed for continuous use.

- **Confined spaces include:**
 - Tanks.
 - Vessels.
 - Storage bins.
 - Hoppers.
 - Vaults.
 - Pits.

- **There can be a number of different types of hazards associated with confined spaces. Conditions to watch out for include:**
 - Hazardous atmospheres such as those containing flammable or toxic gases and vapors.
 - Atmospheres with too little or too much oxygen.
 - Tight areas that could trap or suffocate workers.
 - Spaces that contain materials which can engulf people.

- **The best way to avoid these hazards is to bring the work outside the confined space.**
 - Unfortunately, this is not always possible.

- **Facilities must set up and use written "Permit Space Entry Programs" to regulate entry into confined spaces.**
 - Whenever there is a potential for danger, a written Entry Permit must be issued before work inside can begin.

- **Warning signs will also be posted at the entrances to all regulated confined spaces. These will tell you that:**
 - A Written Permit is required for entry.
 - Or the Space is completely off limits.

- **You will also receive training as part of the program. Depending on your responsibilities, you will be trained as an:**
 - -Entry Supervisor.
 - Entrant.
 - Attendant.

- **The Entry Supervisor is responsible for:**
 - Determining if acceptable "entry conditions" are present at a Permit Space.
 - Authorizing, overseeing and terminating entry operations.
 - Overseeing atmospheric testing.

- **There are three basic atmospheric tests that must be conducted in a confined space.**
 - They must be done in a specific order.
 - First, to determine the oxygen content.
 - Second, to detect the presence of flammable gases, vapors and dusts.
 - Third, to identify toxic contaminants.

- **The first test is to measure oxygen content.**
 - If it is below 19.5%, a person can't breathe in enough oxygen to do physical work.
 - A level above 23.5% significantly increases the chance for a spark or other ignition source to cause a fire or explosion.

- **The second test deals with gases, vapors and dusts which can form flammable or explosive atmospheres.**
 - This occurs when gases, vapors or dusts reach concentrations greater than 10% of their lower flammable or explosive limit (also known as LEL).

- **Flammables that are often found in the air of confined spaces include:**
 - Methane.
 - Acetylene.
 - Carbon Disulfide.
 - Gasoline.
 - If these build up beyond their LEL's, the area can become hazardous.

- **Combustible dusts can also be a fire or explosion hazard.**
 - If dust obscures vision at a distance of five feet or less, it should be considered above its LEL and, therefore, dangerous.

- **The third atmospheric test identifies toxic gases or vapors in the air of a confined space.**
 - Breathing these substances can cause illness or even death.
 - Carbon monoxide and hydrogen sulfide are the two most commonly encountered.
 - It is extremely important to detect leaks or build-ups of any gases before they can cause harm.

- **Even after initial testing has been done, periodic testing of the atmosphere must continue to ensure the safety of all Entrants.**
- **If tests reveal atmospheric hazards in a space, the Entry Supervisor:**
 - Must see that continuous forced-air ventilation is used to control or eliminate hazards.
 - Ensure that pure oxygen is never used in ventilation (this dramatically increases the chance of fire or explosion).
- **Forced-air ventilation alone will not always protect entrants from toxic gases and vapors.**
 - The Entry Permit may also require the use of a respirator or Self-Contained Breathing Apparatus.
- **"Hot Work" Permits must be issued for jobs that may produce a spark or flame, such as welding and riveting.**
 - This can also cause caked-on residues to boil off, releasing toxic gases or vapors.
- **Following Lock-Out/Tag-Out procedures is also important.**
 - All sources of energy must be cut off.
 - Heavy moving parts that could trap or crush a worker must be completely shut down.
- **In some instances, it may be impossible to lock out equipment because it is part of a vital service system.**
 - If this is the case, other measures must be taken to ensure safety.
- **When the Entry Supervisor is certain that all potential dangers have been eliminated, they will sign the Entry Permit and work can begin.**
- **During entry operations, the Entry Supervisor will clear all unauthorized personnel from the Permit Space area.**
 - This keeps untrained workers from interfering.
 - Or others from being exposed to situations they are not prepared for.

- **The Supervisor will also ensure that operations stay within the guidelines set by the Permit.**
 - If hazards develop at any time, work will be halted, and the Permit will be canceled.

- **Entrants are the people who actually enter a confined space. They must know how to:**
 - Use ladders and other gear for safe entry and exit.
 - Set up safety barriers around entry points.
 - Use proper personal protective equipment.
 - They may also monitor the air inside the Space.

- **Entrants must also be able to:**
 - Set up forced-air ventilation systems.
 - Use explosion-proof lighting equipment in potentially flammable atmospheres.

- **In most cases, Entrants wear a chest or full body harness with a retrieval line.**
 - This line can be attached at the center of the back near shoulder level... or above the head.
 - Wristlets may also be used, but only if it is not possible to wear a harness.

- **If the space is over five feet deep, retrieval lines should be attached to:**
 - A fixed point outside the entrance.
 - Or a retrieval device such as a tripod and winch.
 - These systems must be used unless they increase the risk of injury or would be ineffective in a rescue attempt.

- **While inside a confined space, the Entrant must stay in constant communication with the Attendant in the event of an emergency.**
 - This may require using two-way communication equipment, such as radios.
 - If so, the Entrant will receive training on how to use this equipment before entering the Space.

- **Attendants play an important role in confined space entries. They must:**
 - Undergo the same training as an Entrant.
 - Be prepared to handle other tasks, such as monitoring Entrants.
 - Assist with an Entrant's entry and exit.
 - Maintain communications with Entrants.

- **An Attendant may monitor more than one Entry Space at a time, and may also perform other tasks.**
 - Such as handing tools down to Entrants.
 - These other tasks must never interfere with the Attendant's ability to watch out for problems and safely monitor all entry personnel.

- **As an Attendant, you must evacuate the Entrants from the space if you spot problems such as:**
 - Oxygen deprivation.
 - Exposure to toxic substances.

- **During most entries, an Attendant will never enter the confined space... even to perform a rescue.**
 - However, an Attendant may enter a space if specifically authorized by the Permit.

- **An Attendant must know the Entry Permit inside and out. If a condition arises which is prohibited by the Permit, the Attendant:**
 - Will need to call for an evacuation.
 - Needs to know the exact number of Entrants in the space. (so everyone can be accounted for).

- **For some emergencies, an Attendant may need to contact rescue teams and emergency medical services. That may require:**
 - Using information written on the project's Entry Permit.
 - Knowing where to find Material Safety Data Sheets that may be needed by emergency personnel.

- **Many facilities are served by an outside rescue team.**
 - Employers must inform the team about all potential rescue scenarios.
 - The rescue team must be given access to the facility's confined spaces for rescue planning and practice sessions.

- **Whenever a Permit Space is evacuated, an evaluation must be made to find out what went wrong.**
 - Only after corrective steps have been taken can the space be re-entered.
 - A new Permit must be filled out and signed by the Entry Supervisor before re-entry can occur.

- **Remember, a Permit must be filled out whenever a space is going to be entered.**
 - The Permit Form is set up by your facility, using the regulation as a guideline.

- **Information on the Permit must include:**
 - The space to be entered.
 - The purpose of the entry.
 - The date the entry is to be made.
 - The authorized duration of entry.

- **The Permit must indicate the authorized Entrants who are involved, as well as the Attendant and the Entry Supervisor. It must also list:**
 - All hazards associated with the space.
 - The measures that need to be taken to isolate, control or eliminate hazards.
 - Required communication equipment, air monitors and alarm systems.
 - Personal protective equipment that should be worn in the space.

- **The Permit must also show the conditions that are necessary for safe entry into the Space, such as forced-air ventilation.**
 - The results and times of initial and periodic testing must be recorded.
 - The authorized person doing the testing must initial the Permit.
 - The need for any additional work permits, such as "Hot Work", should also be shown.

- **The Permit must contain a section on rescue and emergency services, including:**
 - The telephone numbers of local rescue squads, police and fire personnel.
 - A list of any emergency equipment that should be on hand.

- **The Entry Supervisor must sign the Entry Permit before work can begin.**
 - A Permit is valid only until a condition arises which is not allowed, or until the project is completed.

- **Permits from completed jobs must be kept on file for at least one year.**
 - This helps determine if any changes need to be made to the Permit Plan.
 - If any problems occurred during the entry, details should be recorded for future study.

- **There can be a number of differences in the way you approach each confined space.**
 - The types of hazards that are encountered will determine the procedures to be followed.

- **Some Permit Spaces may require only a few safety precautions.**
 - In some spaces, the only hazards are atmospheric.
 - If forced ventilation alone can control these hazards, additional precautions may not be needed.

- **In fact, an Entry Permit isn't always required to work in a confined space.**
 - If it can be proven without entering a space that there are no hazards, it can be designated Non-Permit.
 - In these cases, work can be done without following the guidelines of a Permit-Required Entry Program (an Entrant can work alone without an Attendant).

- **Some Permit-Required Spaces can also be re-classified as Non-Permit, following the removal of hazards or potential hazards.**
 - Written certification showing that all hazards have been eliminated is required for reclassification.

- **Sometimes a facility will bring in a contractor to work in confined spaces.**
 - The facility must inform the contractor of the existence of Permit Spaces.
 - The contractor must also be informed of the hazards that make them Permit-Required.
 - The contractor must actively seek out this information before beginning work.
 - The contractor must also inform facility personnel as to what precautions they will be taking.

- **OSHA's Permit-Required Confined Space regulation is designed to provide the safest possible conditions for anyone working in or around a Confined Space.**

- **But remember that you have responsibilities as well.**
 - Take your training seriously.
 - Use extra precautions when working in or around Confined Spaces.
 - Wear appropriate Personal Protective Equipment.
 - Follow all specified procedures.

- **Most of all, take the time to become familiar with the Confined Space Regulation and your facility's Entry Permit System.**
 - Your life and the lives of your coworkers could depend on it!