TOOLBOX SAFETY TIPS

TST #139-B

Confined Space Entry

Dangerous conditions within confined spaces are a leading cause of death in the workplace. Most of these deaths are due to employees who underestimate the dangers or due to rescuers who are not prepared to enter the space. These cramped workspaces are not intended for continuous occupancy and are usually entered when workers must perform a required inspection, repair, renovation, maintenance or similar operation that is an infrequent or irregular function of a larger industrial activity.

What is a Confined Space?
A confined space refers to a work area with limited openings for entry and exit and poor ventilation that can contain or produce dangerous air contaminants. Examples of confined spaces include storage tanks, pits, vaults, sewers, septic tanks, exhaust ducts, grain bins, boilers, pipelines and reaction vessels.

Hazards of Confined Spaces
An atmosphere with too little oxygen is the leading cause of death in confined spaces. An operator can be injured or killed within minutes if the oxygen content is below 6 percent. Safe oxygen levels in the atmosphere are usually at 20.9 percent. An operator is at risk for asphyxiation when entering an atmosphere with oxygen levels less than 19.5 percent. Signs of an oxygen-deficient atmosphere include shortness of breath, impaired judgment, increased heart rate, vomiting and unconsciousness. Special equipment is needed to determine whether the oxygen level is safe or not.

Confined spaces with toxic elements like carbon monoxide, flammable elements like butane or propane, or even an atmosphere with too much oxygen are just as dangerous as an environment lacking oxygen.

A confined space with a sand-like substance can trap an employee in a matter of seconds. The substance can block an individual's respiratory system or crush an individual to death. Once trapped in this substance, escape can become difficult.

Planning and Prevention
A confined space permit is required when there is a potentially hazardous atmosphere. This includes too little oxygen, too much oxygen, flammable gasses, flammable vapors or toxic air contaminants. If the job is near a grain elevator or similar situation that has an engulfment hazard, this situation would require a confined space permit as well.

If working in a confined space that requires an entry permit, then a job site attendant is required. The attendant will oversee the job and continually monitor the hazards. The entry should be well planned with all potential threats carefully reviewed. Air quality testing should be done and an emergency plan should be communicated to all involved with the job. Ventilation and other requirements should be strictly enforced to ensure that safe working conditions are maintained in the confined space.

Do not wait until it is too late. If an operator is concerned about the conditions of the confined space, exit immediately and ask a supervisor to investigate.

Confined Space Entry Quiz

The following statements should be answered with “True” or “False.” Answers below.

1. Most confined space entry deaths are caused by workers underestimating potential dangers or by rescuers entering the space unprepared for the situation.

2. Signs of an oxygen-deficient atmosphere include shortness of breath, impaired judgment, increased heart rate, vomiting and unconsciousness.

3. A confined space permit is required where there is a potentially hazardous atmosphere.

4. Job site attendants are not required when working in a confined space that requires a permit.

5. Ventilation is necessary to ensure that safe working conditions are maintained in the confined space permitted area.

Employee Name: _____

Signature: _____ Date**:** _____

Answers:

1. True
2. True
3. True
4. False
5. True