

Confined Space Entry

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Public sector workplaces are often comprised of a wide range of job types and a correspondingly wide range of safety hazards. One potentially deadly job hazard for many public agencies is confined space entry. If your workplace has underground infrastructure, above ground storage tanks or silos, or manages buildings, it is very likely that your workplace has confined spaces and employees who enter them. OSHA defines a confined space as “a space that: (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and (3) Is not designed for continuous employee occupancy.” Notice the “and” between each criterion as it is purposeful and important.

Planning

The first step in developing a confined space program is to identify and classify the confined spaces in your workplace and the hazards that may be present or created therein. To identify the spaces and hazards, take the time to familiarize yourself with the facilities and talk with your facility managers and employees. Hazards may broadly be described as physical (fall, entrapment, moving parts, stored material, etc.) or atmospheric (lack of oxygen, combustible, poisonous). After the spaces and hazards have been identified, it is necessary to develop plans to mitigate the hazards. Always start with the idea of eliminating the need for people to enter the space or other engineering controls. Think about temporarily or permanently moving items that require regular maintenance out of the space to reduce the risk to the people entering confined spaces. If eliminating the hazard is not possible or practical, the next step is to develop plans and procedures for entry. An entry occurs whenever any part of a worker’s body crosses the plane of the entrance into the confined space.

Entry permits need to address and mitigate the hazards, identify who is in charge and who is doing the work, and contemplate a timely means to rescue entrants. For areas that are commonly entered and for which the hazards for routine work can easily be eliminated, a general permit can be created. The permit should be periodically reviewed and adhered to. These permits can make confined space entry safer for the people entering the space and their managers. General permitted spaces often take advantage of engineering controls to eliminate hazards. For spaces that do not get entered often or that have inherent or created hazards that are more difficult to control, a full-entry permit must be completed each time an entry is made. More detailed definitions and requirements can be found on the OSHA website and your state agency responsible for workplace safety.

Training

After or during identification and planning, it is necessary to train people to recognize and properly react to hazards. Often employers will have two training programs, one for the people doing the entry work, and one awareness-level program for people who simply work at a facility that has confined spaces. The awareness-level training typically includes recognition of a

confined space and the hazards and direction that entry into such places is not to be made. Entry training may include multiple topics including CPR and first aid, fall hazard identification and protection, personal protective equipment, atmospheric monitoring equipment use, ladders, hot work, respiratory protection, rescue procedures and equipment, cranes and rigging, and specialty equipment use. Training must be conducted at least annually or as changes to the program necessitate.

Rescue

A rescue plan must be more than simply calling 911. Employees must understand the potential consequences of “running in for the rescue.” Two out of every three fatalities related to confined spaces are would-be rescuers. There are three positions (multiple people) included on an entry permit: supervisor, entrant and attendant. The supervisor and entrant are self-descriptive. The attendant is an important job and requires the ability to communicate with the entrant(s) and recognize and react to problems.

A procedure known as non-entry rescue can be very useful for permit entry confined spaces. This type of rescue plan requires that each entrant be connected to a means of manual retrieval. If there is a problem, and the entrant is incapable of self-rescue, the attendants outside the space can operate a manual winch that’s connected to the entrant via a lifeline. Someone else can be directed to call 911 while National Safety Council First Aid and CPR/AED trained employees begin onsite rescue activities. If non-entry rescue is not viable in your workplace, you should develop, train and equip onsite confined space rescue teams who are available to safely and immediately respond to emergencies.

Disclaimer

Do not consider this article as a full treatise on the requirements of a confined space program as there are specific hazards in your workplace that require specific plans. My hope is that you now have enough information to recognize the potentially deadly hazards associated with confined space work and enact mitigation steps in compliance with the applicable regulations in your area of operation.

About the Author



Bradley T. Rosenthal, MPA, CSP has been employed in the safety field for the better part of the last two decades and has worked for various public and private employers. He currently works as risk program manager for a county-wide wastewater and solid waste authority in Southern New Jersey and serves as vice chair of the NSC Governmental and Public Sector Division.