Permit-Required Confined Spaces

Brandon Mann

Eastern Kentucky University

According to the National Institute for Occupational Safety and Health (NIOSH), 98 workers are killed on average each year in confined spaces (NIOSH, 2016).  Confined spaces are regulated under the OSH Act, specifically 29 CFR 1910.146, and are defined as any space large enough for an employee to enter, has limited means to enter and exit, and is not designed for continuous occupancy by the employee (OSHA, 2011).  OSHA goes on to define a permit-required confined space as a confined space that involves any of the following: a hazardous atmosphere, a material that could engulf an employee, inwardly converging walls or a downward-sloped floor that could trap an employee, or any other serious safety or health hazard (OSHA, 2011).

As the above definitions illustrate, there are hazards that exist in both confined spaces and permit-required confined spaces.  Typical hazards of confined spaces include ergonomics issues from abnormal postures while working in the confined space, as well as the lack of sufficient emergency exit routes.  Permit-required confined spaces have more serious, and life-threatening, hazards.  As such, there are many rules put into place by the OSH Act to protect employees from permit-required confined spaces.

The safety professional within the organization needs to evaluate the work environment to determine if any permit-required confined spaces exist.  If so, the employer has two options: the employer can allow employee access to the spaces, or disallow access to the spaces.

If an employer decides to disallow employee access to permit-required confined spaces, they are required to take actions to prevent the accidental entrance of employees into the confined spaces.  First, the employer shall place signage on the entrance to the confined space to warn employees with language such as "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" (OSHA, 2011).  The employer is also required to monitor changes

in confined spaces to see if changes result in the confined space becoming a permit-required confined space, and to act as necessary. Additionally, any contractor performing work at the employer's site in a permit-required confined space shall be informed of the presence of permit-required confined spaces, the hazards that exist, the protocol that the employer has initiated for entry into the space, and a debrief of their entry into the space.

When an employer decides to allow its own employees to enter the permit-required confined space, there are several protocols that must be initiated and followed. The employer is required to develop a permit entry program that addresses who can enter the space, under what conditions, and what measures are to be taken to safeguard the safety of the employees entering the space.

A permit entry program should address the following items:

- Training for employees entering the space.

- Written rescue procedures to remove an incapacitated employee from the space.

- Mechanical ventilation of the space prior to, and during, the employee entering.

- Monitoring of the air quality before and during entry into the space.

- Availability of proper air monitoring and life-saving equipment as required by this standard.

- The presence of a secondary employee to monitor the activities of the primary employee entering the space.

- A life-line or other rescue equipment available to remove an incapacitated employee from the space.

- A permit to enter the space shall be required for any person entering the space, and all requirements shall be met before the permit is issued.

References

- Occupational Safety and Health Administration. (2011). *1910.146.* Retrieved May 24th, 2017, from

  https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9797.

- Centers for Disease Control and Prevention. (2016). *Confined Spaces.* Retrieved May 24th, 2017, from https://www.cdc.gov/niosh/topics/confinedspace/.