ESSENTIAL 29: Confined Space Entry – Permit Required



Key Takeaways:

– Learning the characteristics and examples of a confined space
– Evaluating the hazards of confined spaces
– Understanding the differences between permit-required and non-permit-required confined spaces
– Recognizing every specific requirement of a Permit-Required Confined Space Program
– Recalling the requirements of the permit system and the information a permit includes
– Understanding the responsibilities of personnel who work in or attend permit spaces
– Realizing rescue resources and the need to plan for emergencies

Course Description

Confined spaces in the workplace are defined as enclosed or partially enclosed spaces of a size such that employees can squeeze entry for performing assigned work through a narrow opening; they're cramped, tight spaces. Typically, you will only enter these areas to perform specific tasks before barricading them to prevent unauthorized access.

Consider the examples of storage tanks or bins, mixing tanks, railroad tank cars, silos, vaults, pits, or any large tank used for holding liquid. It may be the case that these big storage containers need to be cleaned out, so a worker to goes inside and they're completely surrounded by walls of the structure, with only a small entry/exit hatch for escape if things go awry. Confined spaces are a nightmare for the claustrophobic. They may be large or small and above or below ground.

Many confined spaces may foster a hazardous atmosphere because of their very nature and configuration. Since they are normally poorly ventilated areas, the release of vapors that are safe in the open air can create an oxygen-deficient, toxic, combustible, or otherwise harmful atmosphere. Confined spaces are deadly if several unexpected situations develop. These atmospheres can cause immediate

asphyxiation, acute or chronic poisoning, or impairment that can result in injury.

The leading cause of death is asphyxiation in confined spaces, but why does that happen? A lack of oxygen is one highly probable factor contributing to confined space accidents. A situation like this occurs when the air in a confined space is consumed by chemical or biological reactions, diluting the amount of oxygen in the immediate atmosphere to below 21%, increasing negative physiological responses as that percentage declines. Another killer in confined spaces is oxygen displacement. This occurs when inert gas concentration is high enough to remove oxygen from the chamber, essentially replacing the normal air we breathe with colorless, odorless gases like nitrogen or carbon dioxide, and creating a situation of complete suffocation for workers. More likely problem situations to consider involve flammable atmospheres, toxic gases, and solvents: each poses different, specific hazards that have killed high-risk workers in the past. An confined space that requires a permit: – Houses or has the potential to produce a hazardous atmosphere – Has a material that can engulf someone who enters the space – Is configured internally in a way that might cause an entrant to be trapped or asphyxiated – Has other recognized serious safety or health hazards A company Permit-required Confined Space Entry Program is an overall policy and plan for protecting employees and contractors from confined space hazards, in addition to regulating entry into its permit-required spaces. Ahead of entering a permit space, your supervisor and/or the attendant must take every measures necessary to isolate the permit space and eliminate or control hazards. Such measures might include lockout or tagging of equipment to eliminate hazards. Other methods to reduce hazards include testing and monitoring the air for contaminants and adequate oxygen, then purging, ventilating, and flushing unsafe atmospheres or chemicals from the space. When permit-required confined spaces need forced air ventilation, then the ventilator must significantly reduce hazardous atmospheric conditions to be within acceptable limits, PPE may be necessary, and safe atmosphere must be maintained until the job is completed and personnel have left the space. Prior to entering a permit space, your supervisor and/or the attendant must test the internal atmosphere with calibrated, direct-reading instruments. OSHA standards require your employer to provide all necessary equipment free for you to ensure your safe entry and exit of the permit space. This equipment includes but is not limited to ventilation and testing and monitoring instruments to maintain an acceptable atmosphere quality. As well, it include communication devices to monitor your status and provide evacuation alerts, any personal protective equipment necessary for adequate protection, and appropriate lighting to enter, work, and exit safely. Your employer has an obligation to provide barriers or shields that protect from external hazards (electrical hazards or sources of extreme heat and cold), ladders or other equipment for safe entrance and exit, and all rescue and emergency equipment for rescuing entrants. In addition to knowing the hazards and symptoms of exposure, employers must ensure that employees working directly in a permit space perform specific duties.