Permit-Required Confined Spaces

I recently delivered a webinar with Grain Journal on grain bin entry and confined space. We were not surprised during the question and answer portion of the program that we had more questions than we had time to answer.

It's difficult to cover all of the intricacies of confined-space entry in an hour period. In fact, I'd argue that the OSHA 1910.146 Permit-Required Confined Spaces (PRCS) is one of the most difficult standards to comprehend. In this article, I'll try to elaborate on a few of the questions that arose during the webinar.

Signage

It's not uncommon for permit-required confined spaces to be identified with signage: “Danger: Permit-Required Confined Space, Do Not Enter” or similar. I favor this approach for warning persons of the potential danger.

However, signage is only one part of the equation. For example, signage can be difficult to maintain on access points to permit-required confined spaces such as manhole covers. A peel-and-stick warning sign or stencil is no match for the amount of traffic that may move across the surface.

If we look closely at OSHA 1910.146, it states, “If the workplace contains permit spaces, the employer shall inform employees, by posting dangers signs or by any other equally effective means, of the existence and location of and the danger posed by the permit space.”

As long as the employees can recognize the PRCS, then the intent of the standard has been met. The best approach is labeling all confined spaces with warning signage and training employees on how to recognize permit-required confined spaces should a label not be present or not legible.

Entry Duration

According to OSHA 1910.146, the permit for entering a PRCS can be valid for as long as it takes to perform the work within the space. Many permits indicate a duration of eight hours.

Consider the following scenario: A space was entered, and the work inside the space was completed in three hours. The permit indicates that the permit is valid for eight hours. Upon completion of the work, the employees remove all ventilation equipment, remove locks and tags from the associated equipment, and close the space.

The permit was valid for eight hours, but situations and hazards in the space had changed over time. These types of scenarios are real and do happen.

Please make sure that employees know that permits are valid for the period it takes to perform the work. Once the work is completed, and the space is returned to service, a new permit must be filled out prior to re-entry. A cancellation signature on a permit is helpful in documenting that a permit cannot be reused. Once the permit is cancelled by the entry supervisor, a new permit must be completed prior to re-entry.

Air Monitoring

It’s important to ensure that the atmosphere within a confined space is monitored effectively prior to and during entry. More importantly, the atmosphere in the immediate area where employees will be working needs to be monitored. Just holding the monitor directly inside the access point is not effective.

Effective monitoring can be achieved with the use of a diffusion monitor or a pump (aspirated) monitor. When using a diffusion monitor for remote monitoring, an aspirator pump and flexible tubing are needed to allow air to flow over the sensors.
Remote monitoring allows tubing to be positioned within a space to pull air from the immediate area where employees will be working. Extension probes also can be used to position the intake into the area of work. The air should be monitored for an acceptable period of time to allow adequate time for the air to flow over the sensors. The monitor’s user manual will provide calculations for the length of tubing being used and the duration of monitoring needed.

In addition, always make sure that the monitor is calibrated according to the manufacturer’s recommendations and bump-tested prior to each use. The bump test is a quick test that ensures that the monitor is working correctly.

Many of today’s units have self-calibration docking stations which automatically calibrate and bump test the unit prior to use and communicate when the calibration gas will expire. If this is not the case, a manual bump test and calibration should be performed.

Air monitoring equipment can be complex and even intimidating for an unexperienced user. I recommend having the manufacturer’s representative stop in and perform training. This is often a service that the representative will provide free of charge.

Conclusion

In this article, we’ve discussed a few key points surrounding confined space entry. As safety leaders, we need to make sure that our employees have the right knowledge and training in order to make educated decisions when evaluating and entering confined spaces. Make every effort to give them the tools to succeed. They deserve no less.

References


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