

Steps to Create a Compliant and Sustainable Confined Space Program

1. Written Permit Required Confined Space Entry Program

- Every part of the standard must be addressed in writing, and should include specifics about each worksite. A program should include more than a copy of the standard.
- Best practices should be included. (e.g. mandatory ventilation)
- Other standards should be referred as they pertain to Confined Space Entry (e.g. Lock-Out/Tag-Out, Fall Protection, Respiratory Protection)
- Equipment responsibility and care should be included in the policy.
- Employers are required to consult with affected employees and their representatives in the development and implementation of confined space programs.
- Programs must be available for inspection by employees and their authorized representatives.

2. Written Confined Space Inventory and Hazard Assessment

- All spaces must be evaluated and classified either as either a permit space or a non-permit space. Until proven otherwise, all spaces must be considered permit-required.
- If the workplace contains permit spaces, the employer shall inform exposed employees, by posting danger signs or by any other equally effective means, of the existence and location and the danger posed by the permit spaces.
- Employers must identify and evaluate the hazards of permit spaces before they enter them and all hazards and potential hazards should be documented in an inventory.
- Inventories should include a picture(s) of the space, a list of hazards and potential hazards, an MSDS sheet for materials stored in the space (if applicable), configuration of the space, dimensions of the space, past permits and any other pertinent information. Spaces should also be named or numbered and marked accordingly.
- A copy of the complete inventory should be given to any rescue service and any departments responsible for contacting rescue services.

3. Permit System

- Employers must develop **AND** implement a system for the preparation, issuance, use, cancellation and review of entry permits.
- Permits must identify the space, the purpose of the entry, the date and duration of the entry, the entrants, the attendants, the entry supervisor and signature or initials, the hazards, hazard control measures, the acceptable entry conditions and the results of the initial and periodic tests performed with the initials of the tester(s) and time performed.
- A review of the permit with affected employees is required to ensure that all hazards, equipment and details are correct on the permit.
- Permits must be kept on file for at least one year and it is good practice to keep a copy of all entries made in a particular space with the space inventory.

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4. Air Monitoring Equipment

- Air Monitoring must be performed prior to each permit entry; and throughout the duration of the entry; to meet compliance monitors must be properly maintained and calibrated.
- Employers must implement a system to ensure that battery life of the monitor will last throughout the entry or provide a sufficient amount of batteries.
- Employers must satisfy all manufacturers' requirements of each individual monitor which include:
 - Tested before each use, called field test or bump check (this uses only calibration gas with meter in operating mode).
 - Calibrated according to the manufacturer's instructions, called field calibration (this uses both fresh air and calibration gas with meter in calibration mode), usually monthly.
 - Returned to the manufacturer for complete maintenance, usually annually.
 - Employers should remember to budget for calibration gas, sensors, and manufacturers' maintenance.

5. Hazard Control Equipment and Procedures

- Employers must provide hazard control measures based upon the hazards of the space. These measures may include:
 - A ventilation system, if there are spaces with the potential for hazardous atmospheres.
 - Lock-Out/ Tag Out equipment and procedures if an energy source needs to be controlled.
 - Other equipment for any specific hazards (e.g. water pumps, intrinsically safe tools etc.)
 - Personal Protective Equipment
 - Ingress and egress equipment such as ladders or a lowering winch.
 - Barriers to protect the exterior of the space.
 - Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency.

6. Non-Entry Rescue System

- Non-Entry rescue systems (tripod or davit arm system with a mechanical winch) shall be utilized whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue to the entrant.
- All manufacturers' specifications (e.g. weight capacities, cleaning instructions, and manufacturer's inspections) must be adhered to and each piece of equipment should be inspected before and after each use by the entry team.
- Each entrant shall use a full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level or above the entrant's head, or at another point which the employer can establish the smallest possible profile. In order to meet this requirement, different sizes of harnesses will need to be available.
- If horizontal entries occur, equipment (e.g. wristlets) must be available.
- If equipment is being lowered or if there is no means of ingress/egress and an entrant must be lowered into a space, separate winches must be available for those purposes. The rescue winch may not be used.

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7. Communication System

- ❑ The employer must provide communications equipment so that the entrant and attendant can continuously communicate. The attendant must be able to monitor the entrant's status and be able to alert the entrant of any change in conditions.
- ❑ Whenever there is a potential for a flammable or explosive atmosphere, communication devices must be intrinsically safe.
- ❑ If electronic devices are used there should be a system in place to ensure that batteries are fully charged and that the system is in working order before an entry is made. Extra charged batteries should also be at the ready.
- ❑ Employers must develop and implement procedures for summoning rescue and emergency services.

8. Rescue Service

- ❑ Employers must decide whether they are going to use an internal or an external rescue service.
- ❑ Employers must evaluate the team or service to ensure that they have the capability and willingness to reach the victim(s) within a time frame that is appropriate for the permit space identified and that they are equipped for and proficient in performing the needed rescue services.
- ❑ Employers must inform the rescue team or service of the hazards they may confront and they must have access to all permit spaces. Giving the rescue team or service a copy of the inventory is suggested.
- ❑ Internal services also require the employer to provide personal protective equipment at no cost to the employee. Employers who utilize an internal team must also provide training on the personal protective equipment, to perform assigned rescue duties, in basic first-aid and CPR. Employers must also ensure that at least one member of the team holds a current certification in First-aid and CPR.
- ❑ Employers must also ensure that the team or service practices a simulated rescue operation at least once every 12 months.

9. Training Program

- ❑ Training shall be provided to each affected employee before the employee is first assigned duties and before there is a change in assigned duties.
- ❑ Training must also be provided whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained.
- ❑ The training shall establish proficiency in the duties required by the standard and shall introduce new or revised procedures as necessary for compliance.
- ❑ After an initial comprehensive training, affected employees should have a yearly refresher to introduce any new or revised procedures and practice non-entry rescue procedures.

10. Annual Review

- ❑ Employers must review the permit space program, using the cancelled permits retained within one year after each entry and revise the program as necessary.
- ❑ Entry operations must also be reviewed if the employer has reason to believe that measures taken under the permit space program may not protect employees.