



CONFINED SPACE PROGRAM

1. Purpose: To protect employees through effective implementation, recordkeeping, informing employees and contractors of documented locations and hazards in each permit space in compliance with the Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.146.
2. Scope: This Program applies to those that work in and around confined and permit-required confined spaces.
 - a. **VCU employees are not allowed to enter permit-required confined spaces without proper training and authorization.**
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4. Definitions
 - Acceptable Entry Conditions: The conditions that must exist in a permit-required confined space to allow entry and to ensure that the employees involved with a permit-required confined space entry can safely enter into and work within the space.
 - Confined Space is a space that:
 - i. Is large enough and so configured that an employee can bodily enter and perform assigned work;
 - ii. 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
 - iii. Is not designed for continuous employee occupancy.
 - Engulfment: The surrounding and effective capture of a person by a liquid or finely divided solid (flowable) substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.



- Entry: The act by which a person intentionally passes through an opening into a permit-required confined space, and subsequent work activities in that space. The entrant is considered to have entered as soon as any part of the entrant's body breaks the plane of an opening into the space.
- Entry Permit: The written or printed document to allow and control entry into a permit-required confined space.
- Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is escape unaided from a permit-required confined space), injury, or acute illness from one or more of the following causes:
 - i. Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).
 - ii. Airborne combustible dust at a concentration that meets or exceeds its LFL.
 - iii. Note: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.
 - iv. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
 - v. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this part [29 CFR] and which could result in employee exposure in excess of its dose or permissible exposure limit.
 1. Note: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.
 - vi. Any other atmospheric condition that is immediately dangerous to life or health.
 1. Note: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.



- Immediately Dangerous to Life or Health (IDLH): Any condition which poses an immediate threat of loss of life; may result in irreversible or immediate severe health effects; may result in eye damage; irritation or other conditions which could impair escape from the permit-required confined space.
- Non-Permit-Required Confined Space: A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.
- Oxygen Deficient Atmosphere: An atmosphere containing less than 19.5 percent oxygen by volume.
- Oxygen Enriched Atmosphere: An atmosphere containing more than 23 percent oxygen by volume.
- Permit-required Confined Space (Permit-required confined space): A confined space that has one or more of the following characteristics:
 - i. Contains or has a potential to contain a hazardous atmosphere.
 - ii. Contains a material that has the potential for engulfing an entrant.
 - iii. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.
 - iv. Contains any other recognized serious safety or health hazard.
- Permit-required Confined Space Program: The employer's overall program for controlling, and where appropriate, for protecting employees from, permit-required confined space hazards and for regulating employee entry into permit-required confined spaces.
- Testing: The process by which the atmospheric hazards that may confront entrants of a permit-required confined space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit-required confined space.
 - i. Note: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to and during entry.

5. Background: As part of routine maintenance activities many VCU employees and contractors are required to enter potentially hazardous enclosed spaces. Confined spaces may have atmospheric conditions and/or physical hazards present and include: manholes, wet-wells, vaults, tanks, boilers, silos, bins, pits, sumps,



and sanitary and storm sewers. Toxic and/or flammable gases and vapors may accumulate in these locations as a result of insufficient ventilation and deficient oxygen levels may be present as the result of corrosion and/or organic debris digestion. In addition, limited access to these locations complicates the retrieval of anyone incapacitated.

6. Responsibilities:

a) Safety and Risk Management (SRM):

- i. Developing and updating basic training and standard guidelines for all VCU personnel who enter confined spaces and work near permit-required spaces;
- ii. Assisting departments (upon request) in calibrating, approving and making recommendations for all monitoring equipment, safety equipment, training programs and materials for safe work operations;
- iii. Maintaining basic Confined Space training records along with department supervisors;
- iv. If requested, working with departments and contractors to assist with program implementation;
- v. If requested, provide outside monitoring of potential atmospheric hazardous spaces (VCU SRM will not enter permit-required confined spaces to conduct testing);
- vi. Assisting with identifying confined and permit-required spaces at VCU; and
- vii. Assisting with inspecting permit-required confined space locations for determination of potential hazards and controls.

b) Facilities Management:

- i. Identifying confined and permit-required confined spaces encountered by employees and contractors, submitting and maintaining a list of all identified spaces to SRM, contacting SRM when additional spaces are identified, and notifying all affected employees;
- ii. Implement any measures necessary to prevent employees from entering permit spaces;
- iii. Ensuring affected employees receive appropriate training and maintaining a training records along with SRM;
- iv. Maintaining permit-required confined space entry permits for 1-year as required by 29 CFR 1910.146;
- v. Posting appropriate signage on all identified spaces;
- vi. Taking appropriate disciplinary action whenever an employee fails to follow safety precautions outlined in this Program;
- vii. Coordinate reclassifying permit-required confined space work with SRM and maintaining reclassification documentation;



- viii. Conducting briefing and de-briefing with any contracting company on the permit-required confined space they are hired to work in that includes the following:
 - Any potential and identified hazardous elements of the space;
 - Assure contractors have a permit-required confined space plan meeting the VOSH requirements;
 - Informing the contractor of any precautions or procedures that VCU has implemented for the protection of employees in or near permit spaces where the contractor personnel will be working; and
 - Coordinate entry operations with contractor when VCU employees will be working near permit spaces.
- ix. Ensure all entry permits, along with the contractor, are completed, reviewed, and signed upon termination of entry.
- c) Employees:
 - i. Not entering identified permit-required confined spaces and notifying their supervisor of any confined or permit-required confined space encountered not currently on the confined and permit-required confined space list;
 - ii. Attend confined space awareness training;
 - iii. Shall leave the confined space immediately in the event a hazardous atmosphere is detected while working in a confined space;
- d) Contractors:
 - i. Attend briefing and de-briefing meetings and coordinating entry operations with VCU personnel;
 - ii. Obtain all available information regarding permit space hazards and entry operations from the host employer;
 - iii. Inform and provide VCU personnel with their permit-required confined space program; and
 - iv. Ensure all entry permits, along with contracting department, are completed, reviewed, and signed upon termination of entry and provide department with a copy of permit.
- 7. General Requirements:
 - a) VCU employees are not allowed to enter permit-required confined spaces.
 - b) Departments have the option temporarily reclassify a permit-required confined space to a non-permit confined space if the space:
 - a. Has no atmospheric hazards;
 - b. Has no potential for an atmospheric hazard to arise; and
 - c. All hazards can be eliminated without entering the permit-required space.



VCU

Safety and Risk Management

Departments must also document how they determined the hazards were eliminated (Use Appendix A) and retain a copy of the Temporary Reclassification Certificate.

- c) If a hazardous atmosphere is detected during entry:
 - a. Each employee shall leave the space immediately;
 - b. The space shall be evaluated to determine how the hazardous atmosphere developed;
 - c. If the hazards are eliminated, the non-permit entry can continue; and
 - d. The department will contract out all work if acceptable entry conditions cannot be achieved.

8. General Training Requirements:
 - a) Each employee who is involved or has the potential to be involved in a confined space entry or who works near a permit-required confined space must be trained in awareness training and demonstrate competency in distinguishing the following:
 - a. Descriptions and locations of confined spaces and permit-required confined spaces;
 - b. Knowing to never enter a permit-required confined space; and
 - c. Steps to take in the event a hazard presents itself while in a confined space

9. References
 - OSHA Regulations 29 CFR 1910.146 – Permit-required confined spaces



Appendix A – Temporary Reclassification Certificate

This form must be filled out and signed by the Department Supervisor. Reclassification of a Permit Required Confined Space to a Non Permit Required Confined Space is valid only for a single shift. The following evaluation is consistent with OSHA 29 CFR 1910.146(c)(7).

Department Supervisor – Complete the following:

Confined Space ID #: Location:	YES	NO	Comments/Results
Is the space free of actual or potential atmospheric hazards (including, not limited to drifting vapors from tanks, pipes, or sewers)?			
Considering industrial or other discharges, is this area likely to remain free of air contaminants while occupied? (Consider the potential of equipment failure, other activities happening near the space, etc.)			
Have all sources of hazards been isolated from the confined space without personnel entry? (All hazardous energy is controlled, lockout/tagout procedures are in use, etc.)			

The Department Supervisor must notify SRM of the scheduled entry and reclassification prior to entry activities.

DEPARTMENT SUPERVISOR AUTHORIZATION			
If the answer to any of the above question is "No" then the space cannot be reclassified from Permit Required Confined Space to Non Permit Required Confined Space and entry must be performed under permit conditions.			
A copy of this form must remain at the entry site for the duration of the entry or shift, whichever is shorter. This reclassification is considered valid for no greater than 1 shift or 8 hours. A copy of this form must be maintained for 1-year upon completion of entry into the space.			
Name:	Signature:	Date: / /	Time: