

37. Permit Required Confined Space

The purpose of this procedure is to protect employees from the hazards of entry into confined spaces. Employees are required to comply with the restrictions and limitations imposed upon them during entry of permit required confined spaces. Employees authorized to participate in permit required entry activities are required to perform the entry in accordance with this policy. Failure to comply with this Permit Required Confined Space Program is cause for disciplinary action up to and including dismissal. This procedure applies to all Physical Plant locations and employees that enter and or work around confined spaces.

37.01. Definitions

- 37.01.01. Attendant: An employee that is designated to remain outside of a permit space and monitors authorized entrants.
- 37.01.02. Authorized Entrant: An employee that is authorized to enter a permit required space.
- 37.01.03. Entry Supervisor: An employee responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry. Entry Supervisor may also serve as an attendant.
- 37.01.04. Confined Space: A space or work area containing all of the following characteristics:
 - 37.01.04.01. Is large enough and so configured that an employee can bodily enter and perform assigned work and
 - 37.01.04.02. Has limited or restricted means for entry or exit and is not designed for continuous employee occupancy.
- 37.01.05. Entry: The action by which a person passes through an opening into a permit-required confined space; entry is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.
- 37.01.06. Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (escape unaided from a space), injury, or acute illness from one or more of the following:
 - 37.01.06.01. Flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit (LEL).
 - 37.01.06.02. Airborne combustible dust at a concentration that meets or exceeds its LEL (this condition is met if dust obscures vision at a distance of 5 feet or less).
 - 37.01.06.03. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
 - 37.01.06.04. Atmospheric concentration of any substance that could result in employee exposure in excess of the substance's permissible exposure limit.
 - 37.01.06.05. Any other atmospheric condition that is immediately dangerous to life or health (IDLH).

- 37.01.07. Non-Permit 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.
- 37.01.08. Permit-Required Confined Space (Permit Space): Any space or work area that has one or more of the following characteristics:
 - 37.01.08.01. Contains or has the potential to contain a hazardous atmosphere.
 - 37.01.08.02. Contains a material that has the potential for engulfing an entrant.
 - 37.01.08.03. Has an internal configuration that can trap or asphyxiate an entrant by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section.
 - 37.01.08.04. Contains any other recognized serious safety or health hazard.
- 37.02. Department Supervisors
 - 37.02.01. Identify work locations that are possible confined spaces.
 - 37.02.02. Assist in classifying confined spaces as “Permit-Required” or “Non Permit- Required”.
 - 37.02.03. Ensure that employees that enter permit spaces are trained and follow permit space entry procedures.
- 37.03. Employees
 - 37.03.01. Attend confined space training if required.
 - 37.03.02. Follow permit space procedures if entering a permit space.
- 37.04. Physical Plant Safety
 - 37.04.01. Assist in identifying confined spaces.
 - 37.04.02. Assist in classifying confined spaces as “Permit-Required” or “Non Permit-Required”.
- 37.05. Confined Space Program coordinator for the Physical Plant
 - 37.05.01. Identification of Confined Spaces
 - 37.05.01.01. Spaces in which employees perform work shall be evaluated for hazards, both known and potential.
 - 37.05.01.02. Spaces that meet all of the criteria for a confined space shall be identified as a confined space.
 - 37.05.01.03. Confined Space Identification form may be used to list identified confined spaces.
- 37.06. Reclassification of a Permit-Required Confined Space
 - 37.06.01. A space classified as a permit-required confined space may be reclassified as a non-permit confined space under the following conditions:

- 37.06.01.01. If the permit space poses no actual or potential atmospheric hazards and it has been verified by sampling the atmosphere of the space.
- 37.06.01.02. All hazards within the space can be eliminated without entry into the space.
- 37.06.01.03. If it is necessary to enter a permit-required space to eliminate hazards, the space shall first be entered following permit space requirements. Once the hazard is eliminated the space may be reclassified as a non-permit confined space.
- 37.06.02. Use Confined Space Evaluation form to certify and document the reclassification of the space.
- 37.07. Alternate Procedures for Permit Space Entry
 - 37.07.01. A space classified as a permit-required confined space may be entered using alternative procedures (Confined Space Entry Permit Form not required) if:
 - 37.07.01.01. The only hazard posed by the permit space is an actual or potential hazardous atmosphere, and
 - 37.07.01.02. Continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry.
 - 37.07.01.03. Data (air monitoring results) supporting use of alternative procedures is obtained without entry into the permit space.
- 37.08. Entering Permit Required Confined Spaces
 - 37.08.01. General Requirements
 - 37.08.01.01. Before entry into any permit-required confined space, the following general procedures shall be followed:
 - 37.08.01.01.01. All entrants and attendants shall have been trained on permit space entry procedures.
 - 37.08.01.01.02. Confined Space Entry Permit form is to be completed prior to entry into the permit required space.
 - 37.08.01.01.03. Guard or barricade entry opening to prevent unauthorized entry; and to protect entrants from external hazards.
 - 37.08.01.01.04. Prior to entry, atmospheric testing shall be completed.
 - 37.08.01.01.05. All hazards of the permit space shall be identified and evaluated before employees are allowed to enter. Use the Confined Space Entry Permit form to document the identification and evaluation of hazards in the space.
 - 37.08.01.01.06. Establish communication procedures for entrants and attendants, prior to entrance.

37.08.01.01.07. Personal protective equipment and other safety equipment needed for safe entry, egress or rescue shall be provided.

37.08.01.01.08. The Entry Supervisor shall review and verify the confined space entry permit form is completed before approval can be given to enter a permit-required confined space.

37.08.02. Air Monitoring

37.08.02.01. Prior to entry, before an employee enters the space, the internal atmosphere will be tested for oxygen content, flammable concentrations and potential toxic air contaminants. Results of the air monitoring will be documented on the confined space entry permit.

37.08.02.02. No entry if oxygen levels are below 19.5 percent or above 23.5 percent.

37.08.02.03. No entry if concentration of flammable gases, vapors, or mists are in excess of 10 percent of their lower explosive limit (LEL).

37.08.02.04. No entry if levels of any substance that could result in employee exposure in excess of the substance's permissible exposure limit.

37.08.02.05. During entry, continue to monitor the space for oxygen levels, flammable concentrations and for toxic contaminants. If a hazardous atmosphere is detected during the entry, the attendant will order the entrants to exit the space.

37.08.03. Air Ventilation

37.08.03.01. If the atmosphere is found to lack oxygen or to contain unsafe levels of toxic gas or vapor, the space shall be mechanically ventilated to acceptable levels before entry.

37.08.04. Interruption of Work in Permit Required Spaces

37.08.04.01. If circumstances cause an interruption in the work, such as taking lunch or a break:

37.08.04.02. The air will be tested each time before re-entry and documented on the permit form.

37.08.04.03. Assess the space to verify that all other hazards identified on the permit form are not present in the permit space.

37.08.05. Once work in the Permit Required Confined Space is Completed

37.08.05.01. Ensure that all employees and all equipment are out of the permit space.

37.08.05.02. Close the access cover to the permit space.

37.08.05.03. Return canceled permit to the entry supervisor.

- 37.08.05.04. All completed permit forms are to be kept for a minimum of one year.
- 37.08.06. Duties of Attendant
- 37.08.07. Remain outside the permit space(s) at all times during entry operation until relieved by another attendant.
- 37.08.08. Communicate with authorized entrants to monitor entrant status and to alert entrants of the need to evacuate the space when conditions warrant.
- 37.08.09. Monitor activities inside and outside the permit space to determine if it is safe for entrants to remain in the space and ordering the entrants to evacuate the permit space immediately under any of the following conditions:
 - 37.08.10. The attendant detects a prohibited condition.
 - 37.08.11. The attendant detects the behavioral effects of hazard exposure in an entrant.
 - 37.08.12. The attendant detects a situation outside the space that could endanger the authorized entrants.
 - 37.08.13. Summon rescue and other emergency services if needed.
 - 37.08.14. Do not enter the permit space to attempt rescue of entrants.
 - 37.08.15. Perform any other assigned rescue and emergency duties without entering the permit space.
- 37.09. Duties of Authorized Entrant
 - 37.09.01. Complete training as required for confined space entry.
 - 37.09.02. Comply with the confined space entry procedures.
 - 37.09.03. Be able to recognize potential permit space hazards.
 - 37.09.04. Use appropriate PPE and other safety equipment and as designated by the permit space entry form.
 - 37.09.05. Communicate with the attendant to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space if necessary.
 - 37.09.06. Exit the permit space if:
 - 37.09.07. Ordered by the attendant to evacuate the space.
 - 37.09.08. Entrant recognizes any warning signs or symptoms of dangerous exposures.
 - 37.09.09. Entrant detects a prohibited condition or perceives there is a danger.
 - 37.09.10. An evacuation alarm is activated.
- 37.10. Duties of Entry Supervisor
 - 37.10.01. Make sure entry permit is completed before authorizing or allowing entry.

- 37.10.02. Make sure the necessary procedures, practices, and equipment for safe entry are in effect before allowing entry.
 - 37.10.03. Ensure that entry operations remain consistent with the terms of the entry permit, and that acceptable entry conditions are maintained.
 - 37.10.04. Take the necessary actions when terminating an entry operation, such as closing off a permit space and canceling the permit, once the work authorized by the permit has been completed.
- 37.11. Training
- 37.11.01. Awareness Training
 - 37.11.01.01. Awareness training will be provided for employees who work around or near confined spaces but do not enter the spaces.
 - 37.11.01.02. Awareness training will include the hazards and recognition of confined spaces
- 37.12. Training for Entry Supervisor, Authorized Entrants and Attendants
- 37.12.01. Requirements of the Physical Plant's Permit Required Confined Space policy and OSHA Permit Required Confined Space Standard.
 - 37.12.02. Recognition, evaluation and control of hazards within a permit required confined space.
 - 37.12.03. Use and limitations of atmospheric testing equipment, PPE and other safety equipment.
 - 37.12.04. Use of "Physical Plant Confined Space Entry Permit Form".
 - 37.12.05. Duties of entry supervisor, authorized entrant, and attendants.
- 37.13. Rescue Plan – Permit Required Confined Spaces
- 37.13.01. Non-Entry Rescue
 - 37.13.01.01. Retrieval systems and/or equipment located outside the permit space will be used.
 - 37.13.01.02. Attendants will conduct the rescue if needed from outside the permit space.
- 37.14. Fire Department Emergency Rescue Services
- 37.14.01. Attendant shall call 911 if an emergency situation arises.
 - 37.14.02. A telephone (or 2-way radio to contact personnel with a phone) shall be available at all times to facilitate calling for emergency services.
 - 37.14.03. When using a 2-way radio, personnel at the phone shall be notified prior to entry into the permit space and when the entry has been completed.
 - 37.14.04. When calling for emergency services, be prepared to provide the following information:
 - 37.14.04.01. Identify the location as a "Permit-Required" confined space.

- 37.14.04.02. The specific location of the permit space (Building and room number).
- 37.14.04.03. The nature and details of the emergency situation.
- 37.14.04.04. The types of hazards present in the space.
- 37.14.04.05. Do not enter or allow others to enter the permit space. Only rescue personnel may enter the permit space.

37.15. Contractors

- 37.15.01. When a Physical Plant contractor performs work that includes entry into a UW-Madison permit required confined space the Physical Plant will do the following:
 - 37.15.01.01. Inform contractor that the workplace contains permit spaces and that all entries into permit spaces shall comply with OSHA Permit-Required Confined Space standard.
 - 37.15.01.02. Provide information to the contractor about the elements and hazards of the space that make the space in question a permit space.
- 37.15.02. Contractor will inform Physical Plant of the permit space program they will follow.
- 37.15.03. Contractor will inform Physical Plant of any hazards confronted or created in the permit space.
- 37.15.04. If the contractor and Physical Plant employees will both be entering the permit space:
- 37.15.05. Coordinate Entry (complete the entry permit together)
- 37.15.06. Debrief at conclusion of the entry