1 INTENT AND SCOPE
This document represents the University at Albany’s Confined Space Program. It provides written procedures and guidelines to protect employees and contractors from hazards associated with confined spaces.

This program is written in accordance with the Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.146 Permit-Required Confined Spaces.

The procedures in this document apply to any University employee or contractor who may enter a confined space. Entry occurs as soon as any part of the body breaks the plane of the opening into the space, whether or not any work activities are actually performed in the space.

As specified in Appendix A below, a confined space is a space defined by the existence of all three of the following conditions:
1. Large enough and so configured that an employee can bodily enter and perform assigned work.
2. Is not designed for continuous employee occupancy.
3. Has limited or restricted means for entry or exit.

Examples of confined spaces at the University at Albany may include (but are not limited to) air handling units, attics, plenums, crawlspace, boilers, cooling towers, sumps and pits, utility vaults, manholes, and tunnels.

A permit-required confined space, also defined in Appendix A, is a confined space that has one or more of the following characteristics:
1. Contains or has the potential to contain a hazardous atmosphere.
2. Contains a material that has the potential for engulfing an entrant.
3. 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.
4. Contains any other recognized serious safety or health hazard.
2 RESPONSIBILITIES

2.1 Employees
All employees must complete training as required by their supervisors and follow the procedures as outlined in this program when entering a confined space. They should also assist in identifying potential confined space locations and hazards.

2.2 Shop/Department Supervisors
Supervisors are responsible for reviewing the locations within their respective work areas to identify either known or suspect confined space locations. Each supervisor must ensure that appropriate personnel receive and maintain required confined space training.

2.3 Environmental Health & Safety (EH&S)
EH&S is responsible for developing and maintaining the confined space program, including the following:

- Identifying locations and potential hazards of each confined space that may require entry by employees. EH&S maintains an inventory of confined spaces and evaluations for those spaces, which are available on the Facilities Management network drive (V:/ drive):
  V:\Common Area\CONFINED SPACES
- Providing confined space training. See Section 7 below for more details.
- Maintaining all confined space entry equipment and calibrating gas detectors as necessary.
- Maintaining copies of confined space entry permits for a minimum of one year. EH&S retains entry permits in the CONFINED SPACES folder on the Facilities Management network drive (hyperlink provided above).
- Producing and maintaining program documentation, including a written program.
- Advising departments on compliance.

2.4 Contractors
Any work at a University at Albany facility or off-site location must be conducted in accordance with all applicable regulations. Contractors must have a written confined space program that complies with all applicable regulations. All contractors must provide copies of their written program and employee training documentation to the UAlbany project manager.

Contractors are also responsible to supply all needed equipment to perform safe entry and/or rescue. When a contractor is required to enter or work in a permit required space, the UAlbany project manager will provide a description of the known hazards identified in that space to the contractor (which can be found in the CONFINED SPACES folder on the Facilities Management network drive; hyperlink provided above).

Contractors must follow UAlbany protocol by notifying the Power Plant Base at 518-442-3444 when they are about to enter a permit-required confined space and again when they leave the space. In the event of an emergency, the contractor would call the Power Plant Base at 518-442-3444.
3 HAZARDS AND CONTROLS IN CONFINED SPACES
Most accidents in confined spaces happen when workers and untrained rescuers do not recognize hazards in the spaces, or they do not eliminate or control the hazards before they enter.

Never assume a confined space is safe to enter. All potential hazards must be identified and addressed in the planning process prior to entry. Eliminating or reducing entry into any confined space is the most effective means of reducing risk (e.g., re-engineering so that a space can be effectively cleaned from the outside or changing equipment so that it can be lifted outside the space for maintenance). Personal protective equipment (PPE) can be used to control exposure if hazards cannot be eliminated or controlled. This is after administrative controls, engineering controls, and other control methods have been exhausted.

Hazard sources may be directly or indirectly associated with working in and around confined spaces. They include, but are not limited to:

- **Inherent hazards**, which are permanent properties or attributes of the space. These can include: limited or restricted access; size and shape of the entrance or portal or the space; products or processes that exist in the space that can create hazardous atmospheres or physical hazards (e.g., chemicals, noise, thermal stress, mechanical equipment, etc.); fixed equipment in the space (e.g., piping systems, pressurized lines, conduit, ducts, machinery, etc.); and structural integrity of the space (e.g., ladders, flooring, platforms, anchor points, etc.).

- **Introduced hazards**, which are not normally associated with the space, but are brought into the space or adjoining space, intentionally or not. The nature of these hazards may be: atmospheric (e.g., contaminated air from external sources); chemical (e.g., cleaning products, painting); hot work (e.g., welding, cutting, burning); electrical (e.g., equipment not low voltage or intrinsically safe, lighting, power tools); or slip, trip, and fall (e.g., ladders, scaffolding, equipment brought into the space).

- **Adjacent hazards**, which are hazards or conditions that exist in surrounding area(s) that may affect the space. This includes nearby work activities that may affect the entry (e.g., pedestrian and vehicle traffic, smoke and exhaust, sparking, heating or cooling, or product/material transfers).

3.1 Biological Hazards
Common sources of biological hazards in confined spaces include bodily fluids and waste, insect bites or stings, rats, snakes, and microbial pathogens.

3.2 Physical Hazards
Physical hazards in confined spaces include, but are not limited to, mechanical and electrical hazards, noise, engulfment, falls, wet/slick surfaces, slip/trip hazards, lighting, radiation, vibration, and temperature and pressure extremes.

Physical hazards also include fire and explosion hazards created by various chemical agents, such as flammable liquids, paints, solvents, and methane gas, as well as combustible dust (settled and in the air).
3.3 Slip, Trip, and Fall Hazards
Slip, trip, and fall hazards in confined spaces typically include physical equipment that is an obstacle to a worker, slippery surfaces, poor visibility, inadequate lighting, unsure footing, and changes in the confined space environment as a result of such things as leaks, spills, and vapors.

See UAlbany’s Fall Protection Policy here: https://www.albany.edu/ehs/Occupationalsafety.shtml

3.4 Hazardous Energy
Hazardous energy sources from equipment or systems include mechanical, electrical, pneumatic, hydraulic, and gravitational. All of these sources of energy in confined spaces that could impact worker safety should be eliminated using appropriate isolation or equipment specific lockout/tagout (LOTO) procedures.


3.5 Atmospheric Hazards
Statistics indicate that atmospheric hazards are the most common cause of death in confined spaces. Examples of hazardous atmospheres that may be found in or around confined spaces include: explosive gases and vapors; oxygen deficiency (e.g., oxygen is consumed during rusting of metals, combustion processes, normal breathing of workers, decay of organic materials, and by drying of oil-based paints) or oxygen enrichment; carbon monoxide from incomplete combustion (e.g., engines or fires); hydrogen sulfide from decomposing biological material (e.g., rotting fish, seaweed, grains); cleaning operations (e.g., toxic volatile organic compounds, solvents); and welding fumes (e.g., heavy metals).

Atmospheric hazards must be identified by air monitoring from outside the space (described in Section 6.1 below) and eliminated or controlled before entry.

3.6 Other Hazards
Psychological and other hazards can be created in confined spaces where there is restricted movement, excessive noise, PPE restriction, or other issues. Some Entrants may become claustrophobic or stressed, which may cause them to hyperventilate and alter their ability to reason and make sound decisions. Workers must be trained to be aware of symptoms for their own safety and the safety of coworkers, communicate to the Entry Supervisor, leave the space or do not enter initially, and ask for help if needed.

If the Entrant shows signs of psychological stress or unusual behavior, they should not enter the space or should be removed from the space immediately.
4 EVALUATION AND CLASSIFICATION OF CONFINED SPACES
EH&S maintains an inventory of confined spaces and evaluations for those spaces, which are available on the Facilities Management network drive (V:/ drive):
V:\Common Area\CONFINED SPACES

A sample Confined Space Evaluation Form can be found in Appendix C of this program. Confined spaces are classified as non-permit confined spaces or permit-required confined spaces.

This inventory is reviewed and updated whenever previously unidentified hazards present themselves or there are changes affecting the working conditions within a confined space or if new confined spaces are created or identified. If a new space is created or identified, it will be considered a permit-required confined space until it has been evaluated and determined not to be.

5 NON-PERMIT REQUIRED CONFINED SPACE PROCEDURES
Entry into non-permit required confined spaces do not require a permit.

Employees are, however, always required to evaluate the potential hazards of all jobs prior to beginning work. If any questions or concerns arise during the evaluation the employee should discuss the issue with their supervisor. Unexpected and potential hazards could be introduced to confined space based on the work performed or changes in space configuration. If either situation arises, the space must be exited and must not be entered until a new confined space evaluation has been completed.

6 PERMIT-REQUIRED CONFINED SPACE PROCEDURES

6.1 Preparation of the Space
Before entry, the permit-required confined space will be prepared as follows:
   1. An entry team (Entry Supervisor, Attendant(s), and Entrant(s) as defined in Section 6.2 below) will be assigned.

   2. The Entry Supervisor will brief the Entrant(s) and Attendant(s) on all aspects of the job. At any time, the Entry Supervisor, the Entrant(s), and/or the Attendant(s) can either postpone or stop the entry due to a safety concern.

   3. The entry team will be provided and will wear all appropriate personal protective equipment (PPE) based upon the hazards present.
   4. If the space is located on a roadway and will compromise traffic in any way, a temporary traffic control plan must be created and set up in accordance with the rules and regulations of the Manual of Uniform Traffic Control Devices (MUTCD).
5. A new permit will be opened and previous hazards encountered in the space will be reviewed from prior permits.

6. Air monitoring equipment (i.e., 4-gas meter, which measures oxygen content, flammable gases and vapors, hydrogen sulfide, and carbon monoxide) shall be appropriately calibrated and tested according to manufacturer’s requirements prior to any entry. Battery life will be checked.

7. Upon opening the space, the oxygen content, flammable gases and vapors, and potential toxic air contaminants will be monitored and documented on the permit. Vertical spaces must be monitored every five feet of the space without breaking the plane.
   a. Acceptable atmospheric entry conditions are as follows:
      i. Oxygen content must be greater than 19.5% and less than 23.5%.
      ii. Flammables must be less than 10% of the lower explosive limit (LEL).
      iii. Hydrogen sulfide must be less than 10 parts per million.
      iv. Carbon monoxide must be less than 35 parts per million.
      v. All toxic air contaminates must be less than the Public Employees Safety and Health Bureau’s (PESH) permissible exposure limits.
   b. If a hazardous atmosphere exists, entry into that area will be prohibited or discontinued until conditions are brought into acceptable limits.
      i. Any hazardous conditions detected must be reported to the Office of Environmental Health & Safety.
      ii. Entrants may not enter the space until acceptable entry conditions are confirmed. If acceptable entry conditions cannot be established and maintained, entry shall not be allowed.
      iii. A qualified person (e.g., Entry Supervisor) must determine the method of ventilation based on the confined space configuration, the types and concentrations of contaminants, the volume and placement of the supply air, and the exhaust locations. The types of ventilation typically used to provide breathing quality air in confined spaces are general ventilation (dilution) and local exhaust ventilation. A third, less common method of ventilation is purging, which is used to remove a flammable or combustible atmosphere by purging the space with an inert gas to remove the flammability hazard, followed by ventilation with breathing quality air prior to entry.

8. All hazardous energy sources will be controlled through lockout/tagout procedures. Ground Fault Circuit Interrupters (GFCIs) must be used whenever using corded electrical equipment outside or near water.
9. If water or sewage has collected in the space it shall be pumped out prior to entry if possible. If the source is a continuous flow, a pump will be required to continuously remove water or sewage and be watched closely by the Entry Supervisor or an Attendant to be sure the pump is working properly throughout the duration of the entry.

10. The space will be rinsed and/or dried if there is a build-up of hazardous or slippery material on the walls of the space.

11. Safe access to the space (e.g., a straight ladder) will be provided.

12. Unauthorized entry into permit spaces shall be prevented. Prevention measures include training, signs, and security measures.

13. If needed, lighting will be provided either through low voltage lighting or through 110 volt equipment plugged into a GFCI.

14. All tools and communication devices shall be checked to make sure that they are intrinsically safe if the potential exists for a flammable atmosphere.

15. Communication methods shall be established prior to entry between the Entrant and Attendant and will be selected based on the size, location, and characteristics of the space.

16. As per UAlbany protocol, the Entry Supervisor must notify the Power Plant Base at 518-442-3444 when they are about to enter the confined space, including the location of the space, the number of Entrants, and the applicable fire department jurisdiction of the confined space (either Albany Fire Department or Guilderland Fire Department, based on the jurisdiction map included with the Confined Space Entry Permit in Appendix D). If the jurisdiction is unclear, default to Albany Fire Department. Power Plant Base will log the entry. The Entry Supervisor must also notify the Power Plant Base again when the entry is completed.

17. All retrieval equipment must be inspected prior to entry. If there is a problem with any piece of equipment a supervisor must be notified and the equipment must be taken out of service.

18. For vertical entries, the retrieval system will be set-up at the entry point and will include a tripod, winch with fall protection, and a full body harness. If there are unguarded or uninsulated energized lines in a medium voltage manhole, the entry team should utilize a non-conductive confined space entry winch rather than one with a steel cable.

19. If any other items such as tools need to be lowered into a space, a separate winch will be attached to the tripod and used for such purposes.
6.2 Entry Team Roles and Duties
An entry team must be established prior to entering permit-required confined spaces. The entry team consists of: (1) an Entry Supervisor; (2) Attendant(s), and (3) Entrant(s). A minimum of two employees can fulfill the roles where the Entry Supervisor also assumes the role of Attendant or Entrant.

6.2.1 Entry Supervisor
The Entry Supervisor will:
- Identify confined space locations and work with EH&S to identify potential hazards of each confined space that may require entry by employees.
- Know and understand the hazards that may be faced during entry.
- Determine if acceptable entry conditions are present at a permit-required confined space where entry is planned and complete the permit.
- Verify that all procedures and equipment specified by the permit are in place before allowing entry to begin.
- Verify that rescue services are available and that the means of calling the rescue service is operable. The Entry Supervisor will ensure that the Attendant knows the method for summoning help if rescue is required.
- Notify Power Plant Base before each confined space entry and again once the entry is over.
- Oversee entry operations for the duration of assigned work and terminate the entry when reasons for entering the space have been completed or when an unacceptable condition within the space or outside the space is detected.
- Have the authority to stop work if they feel that the entry is unsafe for any reason.
- Maintain a copy of the entry permit and send a copy to EH&S when the permit is closed.

6.2.2 Entrant(s)
Only authorized Entrants may enter a permit required confined space.

The Entrant(s) will:
- Review the confined space assessment and permit forms to identify hazards, entry requirements, and conditions prior to entry.
- Comply with procedures and guidelines.
- Maintain communication with the Attendant(s) outside the confined space and alert the Attendant(s) of any signs of a hazardous condition.
- Notify the Attendant of any un-authorized individuals accessing the confined space area.
- In the event of an emergency, attempt to self-rescue.
6.2.3 Attendants
The Attendant(s) will:

- Review the confined space assessment and permit forms to identify hazards, entry requirements, and conditions prior to entry.
- Remain outside the permit space during entry operations until relieved by another Attendant.
- Perform air monitoring prior to entry, then continuously throughout the entry to detect any atmospheric changes that might occur. All testing data obtained shall be recorded on the confined space entry permit. If air sampling instruments indicate a developing adverse atmospheric change (e.g., steadily rising hydrogen sulfide or carbon monoxide levels, or steadily increasing or decreasing oxygen concentration), the Attendant must immediately call all Entrants from the confined space and reassess the area.
- Maintain communication with the Entrant(s) inside the confined space and continuously maintain an accurate count of authorized Entrants in the permit space.
- Control access to the confined space, prohibiting entry of unauthorized individuals.
- Perform non-entry rescues (rescue attempts that do not cause the Attendant to break the plane of the entry to the space). This includes providing air to the space, obtaining rescue equipment, and any other non-entry rescue activities. NEVER enter a confined space to perform rescue services. Initiate on-site rescue procedures by calling Power Plant Base at 518-442-3444.

6.3 Confined Space Entry Permit
A confined space entry permit must be completed before approval can be given to enter a permit-required confined space. A copy of the permit form can be found in Appendix D.

All members of the entry team (as defined above) are entitled to review the permit. A permit shall be kept at the job site for the duration of the job. Permits are only good for the specified duration or an eight-hour shift.

The permit is completed by the Entry Supervisor. If the Entry Supervisor must be relieved of their duties, the permit shall be cancelled and a new permit must be filled out by the new Entry Supervisor. All Entrants must exit the space and conditions must be reassessed. If circumstances cause an interruption in the work or a change in the conditions for which entry was approved, a new confined space entry permit must be completed.

Copies of completed permits must be sent to EH&S.
6.4 Post-entry procedures
1. The Entrant(s) shall remove all equipment and materials from the space, return the space to its planned operating condition, and secure the space.
2. The Attendant(s) shall account for all Entrants and return all paperwork and logs to the Entry Supervisor.
3. The Entry Supervisor shall ensure that all appropriate steps have been taken, notify the Power Plant Base of the completion of the operation, and send a copy of the permit to EH&S.

6.5 Rescue and emergency procedures
If an emergency arises, the entry Attendant will immediately notify the Power Plant Base at 518-442-3444 and explain the location and nature of the emergency. If the Power Plant Base does not answer the call within 15 seconds, the Attendant will contact University Police Department (UPD) by: (1) calling on the radio; (2) calling 911 or 23131 from an on-campus phone; or (3) calling 518-442-3131 from a cellphone.

The Power Plant Base (or UPD) operator will immediately notify the appropriate fire department (based on the jurisdiction map included with the Confined Space Entry Permit in Appendix D) and request a confined space rescue. If the fire department jurisdiction is unknown or unclear, default to calling Albany Fire Department. The fire department will respond with appropriate confined space rescue equipment. If not done so already, the Power Plant Base operator will notify UPD of the emergency.

The Attendant will not enter the confined space and will prevent any unauthorized persons from entering the space. If non-entry rescue can be performed by the Attendant, it should be done.

Upon arrival of the fire department, the Attendant will brief the responders as to the hazards within the space, suspected problem, and any other pertinent information. The Entry Supervisor will report to the site and stand by to assist the fire department as needed. Once the incident is remedied, the Entry Supervisor and Attendant will secure the confined space, clean up the exterior site, and fill out a detailed incident report.

7 TRAINING
Training will be provided for all personnel who are Attendants, Entrants, or Entry Supervisors as follows:
- Before the employee is assigned duties relating to permit-required confined space entry;
- Before the employee’s assigned duties change;
- Whenever there is a change in operations that presents a hazard that the employee has not been trained in previously;
- Whenever there is an indication that the procedure is not being followed safely and/or when there are indications that employee practices or knowledge do not meet the requirements.
Training will include the following topics:

- Types of confined space hazards
- Roles and responsibilities of Entry Supervisors, Entrants, and Attendants
- The entry permit system
- Atmospheric testing equipment
- Retrieval equipment use
- Rescue procedures

EH&S will maintain training records.

8 REFERENCES
American National Standards Institute/ American Society of Safety Engineers (ANSI/ASSE) Z117.1 Safety Requirements for Entering Confined Spaces (2016).


Occupational Safety and Health Administration (OSHA). Quick Card: Permit-Required Confined Spaces.

9 APPENDICES
Appendix A: Definitions

Appendix B: OSHA Quick Card: Permit-Required Confined Spaces

Appendix C: Confined Space Evaluation Form

Appendix D: Confined Space Permit
Appendix A: DEFINITIONS

**Acceptable entry conditions**: Conditions that must exist in a confined space to allow entry and to ensure that employees involved with a confined space entry can safely enter and work within the space.

**Affected employee**: Any employee that performs any work related to confined space entry.

**Attendant**: A trained individual stationed outside one or more permit required confined spaces who monitors the authorized Entrants and who performs all Attendant's duties assigned in our program.

**Blanking or blinding**: The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

**Confined space**: A space that meets all of the following conditions:

(1) Large enough and so configured that an employee can bodily enter and perform assigned work.
(2) Has limited or restricted means for entry or exit.
(3) Is not designed for continuous employee occupancy.

**Double block and bleed**: The closure of a line, duct, or pipe by closing and locking or tagging two inline valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

**Engulfment**: The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid 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.

**Entrant**: A trained employee who is authorized by the employer to enter a permit required confined space.

**Entry**: The action by which a person passes through an opening into a permit required confined space. Entry includes ensuing work activities in that space and is considered to have occurred 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 that is provided by the employer to allow and control entry into a permit-required confined space.

**Entry supervisor**: The trained person responsible for determining if acceptable entry conditions are present at a permit-required confined space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry.
NOTE: An Entry Supervisor also may serve as an Attendant or as an Entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of Entry Supervisor may be passed from one individual to another during the course of an entry operation.

**Hazardous atmosphere:** An atmosphere capable of causing death, injury, acute illness, or disablement due to the presence of flammable, explosive, toxic, or incapacitating substances.

**Hot work permit:** The employer’s written authorization to perform operations capable of providing a source of ignition.

**Immediately dangerous to life or health (IDLH):** Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual’s ability to escape unaided from a confined space.

**Lower explosive limit (LEL):** The lowest concentration of a substance in air that will produce a flash of fire when an ignition source (heat, arc, or flame) is present. At concentrations lower than the LEL, the mixture is too "lean" to burn.

**Non-permit confined space:** A confined space that does not contain or, with respect to atmosphere hazards, have potential to contain any hazard capable of causing death or physical harm.

**Oxygen deficient atmosphere:** An atmosphere containing less than 19.5% oxygen by volume.

**Oxygen enriched atmosphere:** An atmosphere containing greater than 23.5% oxygen by volume.

**Permit-required confined space:** A confined space that has one or more of the following characteristics:

1. Contains or has the potential to contain a hazardous atmosphere.
2. Contains a material that has the potential for engulfing an Entrant.
3. 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.
4. Contains any other recognized serious safety or health hazard.

**Prohibited condition:** Any condition in a confined space that is not allowed by the permit during the period when entry is authorized.

**Rescue service:** The personnel designated to rescue employees from permit spaces.

**Retrieval system:** The equipment (including a retrieval line, full body harness, and a lifting device or anchor) used for non-entry rescue of persons from permit-required confined spaces.
Appendix B:
OSHA Quick Card: Permit-Required Confined Spaces
Permit-Required Confined Spaces

A confined space has limited openings for entry or exit, is large enough for entering and working, and is not designed for continuous worker occupancy. Confined spaces include underground vaults, tanks, storage bins, manholes, pits, silos, underground utility vaults and pipelines. See 29 CFR 1910.146.

Permit-required confined spaces are confined spaces that:
• May contain a hazardous or potentially hazardous atmosphere.
• May contain a material which can engulf an entrant.
• May contain walls that converge inward or floors that slope downward and taper into a smaller area which could trap or asphyxiate an entrant.
• May contain other serious physical hazards such as unguarded machines or exposed live wires.
• Must be identified by the employer who must inform exposed employees of the existence and location of such spaces and their hazards.

What to Do
• Do not enter permit-required confined spaces without being trained and without having a permit to enter.
• Review, understand and follow employer’s procedures before entering permit-required confined spaces and know how and when to exit.
• Before entry, identify any physical hazards.
• Before and during entry, test and monitor for oxygen content, flammability, toxicity or explosive hazards as necessary.
• Use employer’s fall protection, rescue, air-monitoring, ventilation, lighting and communication equipment according to entry procedures.
• Maintain contact at all times with a trained attendant either visually, via phone, or by two-way radio. This monitoring system enables the attendant and entry supervisor to order you to evacuate and to alert appropriately trained rescue personnel to rescue entrants when needed.

You have a right to a safe workplace.
If you have questions about workplace safety and health, call OSHA.
It’s confidential. We can help!

For more information:

U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)
Appendix C:
Confined Space Evaluation Form
# CONFINED SPACE EVALUATION FORM

<table>
<thead>
<tr>
<th>Evaluator name:</th>
<th>Evaluation date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Space location:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description of the space:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

## Check if the following statements apply to the space being evaluated:

- The space is large enough and arranged so an employee could fully enter the space and work
- The space has limited or restricted entry or exit
- The space is NOT primarily designed for continuous human occupancy

If you checked ALL three statements, the space is a confined space:  

- **Confined space**  
- **NOT a confined space**

## Check if the confined space contains any of the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>Hazard(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contains or has a potential to contain a hazardous atmosphere</td>
<td>Fall/gravity</td>
</tr>
<tr>
<td>Is an outdoor underground utility vault/manhole</td>
<td>Electrical</td>
</tr>
<tr>
<td>Contains potential for engulfing someone who enters</td>
<td>Steam</td>
</tr>
<tr>
<td>Has an internal configuration that could allow someone entering to be trapped or asphyxiated</td>
<td>Biological</td>
</tr>
<tr>
<td>Contains a physical hazard or any other hazard that could impair the ability to self-rescue or result in a situation of immediate danger to life or health. Specify:</td>
<td>Other</td>
</tr>
<tr>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td>Pneumatic</td>
<td></td>
</tr>
<tr>
<td>Hydraulic</td>
<td></td>
</tr>
<tr>
<td>Chemical</td>
<td></td>
</tr>
<tr>
<td>Thermal</td>
<td></td>
</tr>
</tbody>
</table>

If you checked one or more of the above, the space is a Permit-Required Confined Space:  

- **Permit-Required Confined Space**  
- **NOT a Permit-Required Confined Space**

## Current status

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Is the space currently labeled as a Permit-Required Confined Space
- Is the space secured to control unauthorized entry?

## Additional Comments

<table>
<thead>
<tr>
<th>Confined space number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Appendix D:
Confined Space Permit
**CONFINED SPACE ASSESSMENT / ENTRY PERMIT**

### CONFINED SPACE LOCATION AND DETAILS OF ENTRY

<table>
<thead>
<tr>
<th>Space #:</th>
<th>Location of space:</th>
<th>Date &amp; time of entry:</th>
<th>Purpose of entry:</th>
</tr>
</thead>
<tbody>
<tr>
<td>________</td>
<td>______________________________</td>
<td>___________________________</td>
<td>______________________________</td>
</tr>
</tbody>
</table>

Fire department jurisdiction of confined space (circle one):
- [ ] Albany Fire Department
- [ ] Guilderland Fire Department

Check jurisdiction map if needed.

#### Authorized entrants:

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>______________________</td>
<td>______________________</td>
<td>______________________</td>
<td>______________________</td>
<td>______________________</td>
<td>______________________</td>
</tr>
</tbody>
</table>

#### Authorized attendants:

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>______________________</td>
<td>______________________</td>
</tr>
</tbody>
</table>

#### Authorized entry supervisor:

__________________________

### HAZARD ASSESSMENT (CHECK ALL POTENTIAL HAZARDS PRESENT)

#### Atmospheric Hazards
- [ ] Oxygen deficiency
- [ ] Oxygen enrichment
- [ ] Combustible gas
- [ ] Toxic gases

#### Engulfment Hazards
- [ ] Liquid
- [ ] Solids
- [ ] Other: ______________

#### Entrapment Hazards
- [ ] Inwardly converging walls
- [ ] Snag points
- [ ] Other: ______________

#### Other Serious Hazards
- [ ] Live electrical
- [ ] Live heat or hot water
- [ ] Mechanical hazards
- [ ] Fall hazards >4ft
- [ ] Hot work
- [ ] Animal(s)
- [ ] Other: ______________

### ATMOSPHERIC MONITORING (MUST BE DONE PRIOR TO ENTRY AND CONTINUOUSLY THROUGHOUT ENTRY)

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Monitoring performed by</th>
<th>Hydrogen Sulfide (H₂S) &lt;10 PPM</th>
<th>Oxygen (O₂) 19.5%-23.5%</th>
<th>Carbon Monoxide (CO) &lt;35 PPM</th>
<th>Lower Explosive Limit (LEL) &lt;10% LEL</th>
<th>Other (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*There is space for additional atmospheric results on the back of this form.*

### REQUIRED SAFETY PRECAUTIONS AND PPE

- [ ] Lines broken – caped/blanked
- [ ] Ventilation
- [ ] Lockout/tagout (LOTO)
- [ ] Communication equipment
- [ ] Barricades
- [ ] Full body harness w/back D-ring

- [ ] Lifeline
- [ ] Tripod and retrieval winch
- [ ] Head protection
- [ ] Eye protection
- [ ] Hearing protection
- [ ] Gloves

- [ ] Protective clothing
- [ ] Lighting (explosion proof)
- [ ] Air purifying respirators
- [ ] Hot work permit
- [ ] Fire extinguisher

- [ ] Other: ______________

### EMERGENCY PHONE NUMBERS

<table>
<thead>
<tr>
<th>POWER PLANT BASE: 518-442-3444</th>
<th>EH&amp;S OFFICE: 518-442-3495</th>
</tr>
</thead>
</table>

Notify Power Plant Base prior to entry. Date & time notified: __________________

Notify Power Plant base again when entry is completed. Date & time notified: __________________

If an emergency occurs, immediately contact Power Plant Base. Tell them there is a confined space emergency and give the exact location and description of emergency.

*Keep a copy of this permit at the entry site for the duration of the confined space entry.*

*Return a copy of this permit to EH&S Office once the entry is complete.*

Make & model of air monitor: __________________________ Date of air monitor calibration: __________________

Date & time permit closed: __________________ Supervisor signature: __________________
<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Monitoring performed by</th>
<th>Hydrogen Sulfide (H₂S) &lt;10 PPM</th>
<th>Oxygen (O₂) 19.5%-23.5%</th>
<th>Carbon Monoxide (CO) &lt;35 PPM</th>
<th>Lower Explosive Limit (LEL) &lt;10% LEL</th>
<th>Other (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>