

Permit-Required Confined Space Program



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I. Introduction

A. Every year workers are killed as a result of hazardous conditions in confined spaces. Many of these fatalities are would-be rescuers who enter these spaces in an attempt to retrieve the fallen entrant(s), only to be overcome and become victims themselves. To prevent negative incidents to University of Wyoming (UW) employees, students, and visitors this program outlines the basic requirements to enter and perform work in confined spaces.

II. Purpose

A. The purpose of this program is to outline minimum procedures, training, equipment, and work practices, that if followed, will help prevent accidents and injuries to UW employees, students and visitors. It also achieves compliance with OSHA standard 1910.146, Permit-required Confined Spaces.

III. Scope

A. This document applies to all personnel employed by UW including those located at the Laramie campus, regional campuses, UW Agriculture Research & Extension Centers and related facilities and operations. It includes all recognized permit-required confined spaces and any non-permit-required confined spaces that can become permit-required by introduction of a new hazard.

IV. Policy

A. It is a priority of UW to provide a safe and healthy environment for its employees by controlling recognized hazards in the workplace. UW has primary responsibility for the development of required safety policies and programs. All employees must abide by the established safety policies and attend all required safety training. This program has been developed with these priorities in mind. The University also demonstrates its willingness to comply with safety and health standards and regulations.

V. Definitions

A. Acceptable Entry Conditions

The conditions that must exist in a space to allow safe entry by entrants.

B. Atmospheric Testing Equipment

Equipment used to monitor levels of oxygen, flammable and combustible gases, and toxic gases prior to and during entry into confined space.

C. Attendant

An individual stationed outside one or more spaces who monitors the authorized entrants and executes all attendants' duties as outlined by this program.

D. Authorized Entrant

An employee who is authorized by the employer to enter a confined space to perform specific duties.

E. Confined Space

A space that:

1. is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. has limited or restricted means for entry or exit (i.e., tanks, vessels, silos, storage bins, hoppers, vaults, and pits); and
3. Is not designed for continuous employee occupancy.

F. 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.

G. Entry Supervisor

The person (i.e., employer, foreman, or supervisor) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned. They authorize entry, oversee entry operations and terminate the entry.

An entry supervisor also may serve as an authorized entrant, as long as that person is trained 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.

H. Hazardous Atmosphere

An atmosphere that may expose employees to the risk of death, incapacitation, impairment to self-rescue (i.e., getting out of the space without help) injury, or acute illness from one or more of the following causes:

1. Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit (LFL);

2. Airborne combustible dust at a concentration that meets or exceeds its LFL (i.e., when dust obscures vision at a distance of 5 feet or less).
3. Atmospheric oxygen concentration is below 19.5% or above 23.5%.
4. Atmospheric concentration of any substance for which a dose or permissible exposure limit is published in Subpart G, Occupational health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances and could be exceeded.
5. Any other atmospheric condition that is Immediately Dangerous to Life or Health.

I. Hot Work Permit

UW's written authorization of employees to perform operations, which could provide a source of ignition such as riveting, welding, cutting, burning, or heating.

J. Immediately Dangerous to Life or Health (IDLH)

Any condition, which poses an immediate threat of loss of life, may result in irreversible adverse health or that would interfere with an individual's ability to escape unaided from a permit space.

K. Lower Flammable Limit (LFL) or Lower Explosive Limit (LEL)

The minimum concentration of a combustible gas or vapor in air, which will ignite if an ignition source is present.

L. Non-Permit Confined Space

A confined space that does not contain, nor has the potential to contain, any hazard capable of causing death or serious physical harm

M. Permit-Required Confined Space (Permit Space)

A confined space that has one or more of the following characteristics:

1. Contains or has a 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 that slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard. Includes:

- a. Fall hazards
- b. Unguarded machinery
- c. Extreme heat or cold
- d. Electrical hazards
- e. Presence of asbestos

N. Retrieval System

The equipment (including a tripod, winch, retrieval line, chest or full-body harness, and wristlets, if appropriate) used for non-entry rescue of persons from permit spaces.

O. Testing

The process by which the atmospheric hazards in a space are identified and evaluated.

VI. Responsibilities

A. University (the employer)

- 1. Ensure the safety of its employees and comply with all applicable state and federal regulations.
- 2. Provide support and resources for the implementation of this program including equipment, training, and personal protective equipment.

B. Department Head/Director

- 1. Designate personnel to implement requirements of this program.
- 2. Ensure all employees engaged in confined space entry are properly trained and understand the program requirements and processes.
- 3. Provide required equipment and supplies.

C. Supervisor

- 1. Implement all provisions of this program for work areas under their control.
- 2. Ensure required equipment and supplies are available, in good working condition and used properly.
- 3. Maintain an inventory of the confined spaces identified within their work

locations.

4. Maintain entry permits (completed and reviewed) for a minimum of one year.
5. Can serve as an entry supervisor, authorized entrant or attendant.

D. Facilities Planning/Physical Plant Project Managers

1. Inform contractors working in the vicinity of UW confined spaces of the associated hazards.
2. Coordinate entry operations with the contractor, when both University personnel and contractor will be working in or near permit spaces.

E. ~~University of Wisconsin~~ And Safety (UT UU)

1. Assist in the development and implementation of the program. Provide training and consultation as necessary.
2. Investigate and document all reported incidents that are related to confined spaces.
3. Assist in maintaining an inventory of confined spaces identified within the University.
4. Lead review and revision the program annually.

F. Employees (Entry Supervisors, Authorized Entrants and Attendants)

1. Attend and successfully complete this program's training.
2. Assist in identifying potential confined space locations and associated hazards.
3. Follow all procedures and safe work practices.
4. Inform their supervisor if they experience any unusual signs or symptoms when performing work within a confined space.

VII. Permit Space Procedures

A. Pre-entry

1. Check the UW Confined Space Inventory. Use the information found in the inventory in planning the entry. If the information in the inventory is not correct or the space is not listed notify the entry supervisor and UT UU.
2. Evaluate the known hazards and prepare control measures. This will include gathering the required equipment and checking it for proper working condition (e.g., bump test or calibrate the gas monitor).

3. Completely fill out a confined space entry permit (Appendix B) and post onsite.
4. Notify the Physical Plant service desk before entry. Provide the date, time, location and reason for entry. Also provide the name and contact information of the Entry Supervisor.
5. Notify ÜT ÒU and the Laramie Fire Department of entry if IDLH conditions are anticipated. ÜT ÒU 766-3277 Laramie Fire Department 721-5332
6. Guard the opening to prevent individuals and objects from falling into the space.

B. Entry

1. An attendant must be present and monitoring the situation at all times.
2. Eliminate any hazards associated with removing the cover to the space before removing the cover.
3. Test the internal atmosphere before any employee enters the space.
4. Use continuous forced air ventilation if an atmospheric hazard exists. No employee may enter the space until acceptable entry conditions are attained. Continue until all employees have left the space.
5. Monitor the atmosphere continuously to prevent accumulation of a hazardous atmosphere. Document conditions at least once an hour on the entry permit.
6. Use lockout/tagout procedures outlined in the UW Control of Hazardous Energy Program to eliminate sources of hazardous energy before entering the space when possible.
7. Retrieval system, if needed, required PPE and communication methods are available and in use.
8. Entrants must self-rescue/exit the space immediately if a hazardous condition arises or acceptable entry conditions are otherwise violated.

C. Post-entry

1. When work is complete secure the space and remove guards.
2. Submit the entry permit to the Entry Supervisor for cancellation and record keeping.

VIII. Alternate Entry Procedures

May be used for spaces if the only hazard is a hazardous atmosphere.

A. Pre-entry

1. Check the UW Confined Space Inventory. Use the information found in the inventory in planning the entry. If the information in the inventory is not correct or the space is not listed notify the entry supervisor and ÜT ÜÜ.
2. Evaluate the known hazards and prepare control measures. This will include gathering the required equipment and checking it for proper working condition (e.g., bump test or calibrate the gas monitor).
3. Completely fill out an Alternate Entry Checklist (Appendix C).
4. Notify the Physical Plant service desk before entry. Provide the date, time, location and reason for entry. Also provide the name and contact information of the Entry Supervisor.
5. Guard the opening promptly to prevent individuals and objects from falling into the space.

B. Entry

1. Eliminate any hazards associated with removing the cover to the space before removing the cover.
2. Before an employee enters the confined space, test the internal atmosphere with a calibrated, direct-reading instrument for oxygen, flammable gases and vapors, and potential toxic air contaminants.
3. Use continuous forced air ventilation (from a clean air source) if an atmospheric hazard exists.
4. Test the atmosphere periodically (at least every hour) to detect the accumulation of a hazardous atmosphere.
5. Retrieval system, if needed, required PPE and communication methods are available and in use.
6. Entrants must self-rescue/exit the space immediately if a hazardous condition arises or acceptable entry conditions are otherwise violated.

C. Post-entry

1. When work is complete secure the space and remove guards.
2. Submit the entry Alternate Entry Checklist to the Entry Supervisor for cancellation and record keeping.

IX. Emergencies

- A. **DO NOT ENTER THE CONFINED SPACE** to attempt rescue. Assume the environment is hazardous. Immediately call 911. The emergency dispatcher will immediately notify emergency rescue personnel and UW police.
- B. In the event an emergency there are three response options. They are self-rescue, non-entry rescue, and entry rescue. The primary option is self-rescue. The secondary option is non-entry rescue and is available when a retrieval system is set up. The third

option, entry rescue, is prohibited for UW employees. Only trained emergency response personnel may perform entry rescue.

- C. The Laramie Fire Department provides adequate personnel and response time for confined space emergencies located on the main UW campus in Laramie.
 - 1. Self-Rescue
 - a. Self-rescue is entrant evacuation of a confined space under his own strength. It requires the entrant and the attendant to be aware of the changing conditions in the confined space and the symptoms of exposure to the hazards associated with the space. This is the primary option for UW employees.
 - b. Common symptoms of exposure to atmospheric hazards include: increased respiration and pulse, impaired judgment and coordination, dizziness / lightheadedness, headache, fatigue, irritated eye, nose, throat, and skin, cough, nausea, unconsciousness, and fainting.
 - a. Common symptoms of exposure to heat stress include: skin rashes, muscle cramps / spasms, abdominal pain, heavy sweating, headache, dizziness, weakness, irritability, confusion, and fainting.
 - 2. Non-Entry Rescue
 - a. Non-entry rescue is entrant evacuation of a confined space with the aid of a retrieval system operated by the attendant. It requires the entrant and the attendant to be in communication during the entry and knowledge of how to set up and operate a retrieval system. This is the secondary option for UW employees.
 - 3. Entry Rescue
 - a. Entry rescue is the retrieval of an entrant by trained emergency rescue personnel. It is prohibited for UW employees.
 - 4. Notify the Entry Supervisor and the Directors of Physical Plant and ÜT ÜU of the emergency as soon as possible.

X. Training

- A. Confined space awareness training shall be made available to all UW employees, students, and visitors online that may want to know more about this topic. This training will cover identification of confined spaces and how to recognize potential hazards.
- B. Confined space entry training (required by the OSHA standard) shall be provided to all employees associated directly with confined space operations including the entry supervisor, attendant and authorized entrants. This training shall be done:
 - 1. Before the employee is first assigned duties under this program.
 - 2. Whenever there is a change in permit space operations that presents a hazard about which an employee has not been previously trained.

3. Whenever the supervising department has reason to believe either that there are deviations from permit space entry procedures or that there are inadequacies in the employee's knowledge or use of these procedures.

This training will include classroom and hands-on components. The classroom component will include the hazards of confined spaces, control measures, duties of the entry supervisor, authorized entrant, and attendant, acceptable entry conditions, alternate entry and permit space procedures, emergency procedures and a test of proficiency. The hands-on component will cover permit completion, personal protective equipment, communications, monitoring, retrieval equipment, emergency procedures, and ventilation.

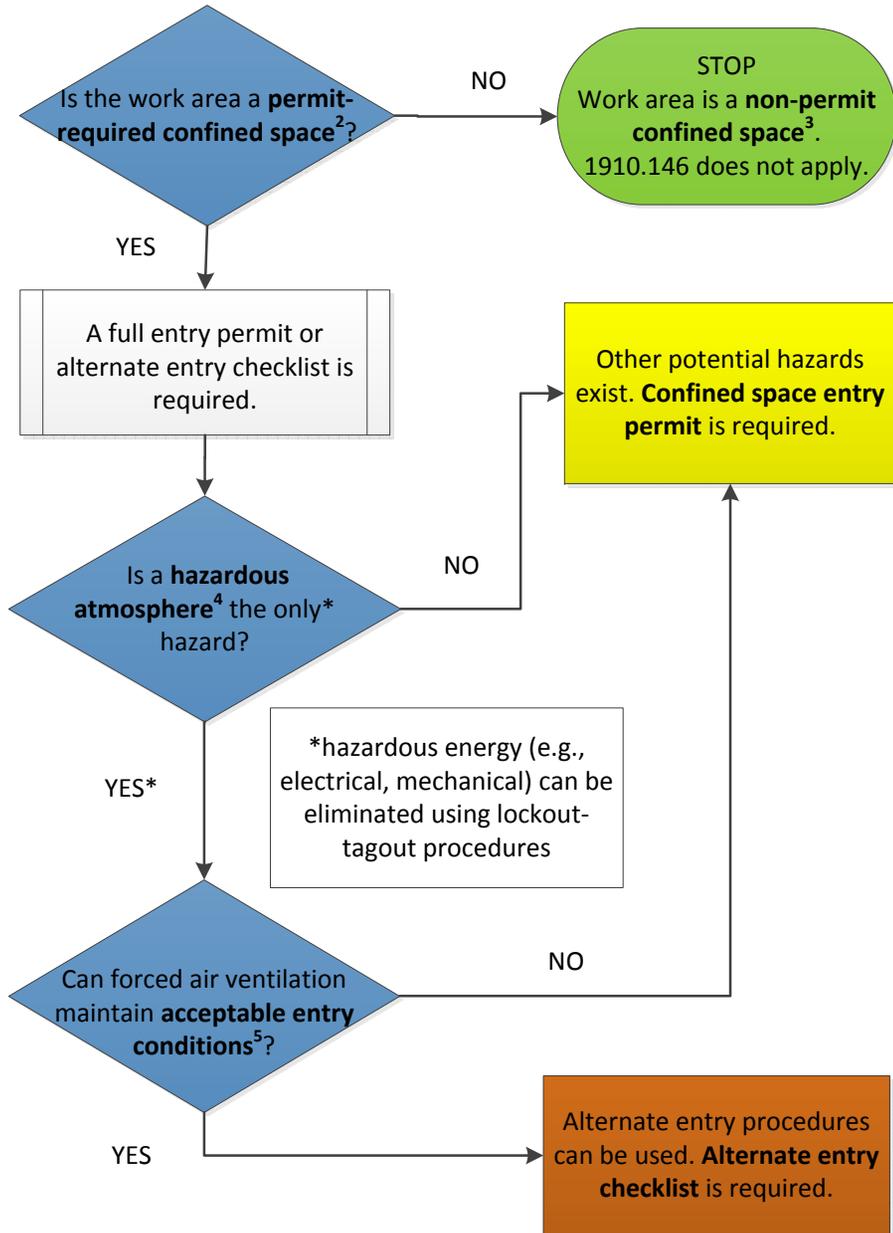
XI. Standards

- A. Wyoming General Industry (OSHA): 1910.146 Permit-Required Confined Spaces, <http://soswy.state.wy.us/Rules/RULES/7369.pdf>

Appendix A: Confined Space Field Guide

Confined Space Field Guide

Classification flow chart: use to determine if a confined space¹ requires an entry permit or alternate entry checklist.



Key Definitions (1910.146 citations)

1. Confined Space (b), (c)

A work area that has all three of these features.

- A. The space must have a size and shape that allow a person to bodily enter it and perform work.
- B. The space must have limited or restricted entry and egress.
- C. The space must not be designed for continuous human occupancy.

2. Permit-required Confined Space (b), (d)-(f), (h)-(k)

A confined space (permit space) that has at least one of the following characteristics:

- A. The potential to contain a hazardous atmosphere either naturally or from any activity conducted during entry and work.
- B. Contains a liquid or finely-divided solid material such as sand or sawdust that could surround or engulf an entrant.
- C. An internal shape, such as inwardly converging walls or a floor that slopes downward and tapers to a smaller cross section that could cause an entrant to be trapped or asphyxiated.
- D. Any other characteristic that is recognized as a serious safety or health hazard, such as thermal, chemical, electrical or mechanical hazards.

3. Non-Permit Confined Space (b), (c)(7)

A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazards capable of causing death or serious physical harm.

4. Hazardous Atmosphere (b), (c)(5)(i)(A)

Any atmosphere that may expose employees to risk of death or injury from one or more of the following causes:

- A. flammable gas, vapor, or mist in excess of 10% of its lower explosive limit (LEL).
- B. Airborne combustible dust at a concentration that meets or exceeds its LEL. A condition approximated to be when dust obscures vision at a distance of 5 feet or less.
- C. Atmospheric oxygen below 19.5% or above 23.5%.
- D. Any other atmospheric condition that exceeds published occupational exposure limits (e.g., OSHA PELs) or is immediately dangerous to life or health (IDLH).

5. Acceptable Entry Conditions (b), (c)(5)(i)(B), (d)(3)-(4)

The conditions that must exist in a permit space to allow entry and to ensure that employees can safely enter into and work within the space. Specific atmospheric conditions are listed on the Confined Space Entry Permit.

Alternate Entry Procedures (c)(5)(ii), (c)(6)

The following procedures will be used if a permit-required confined space has been documented as being eligible for alternate entry. Re-evaluation is required if there are changes in the use or configuration of the space that might increase the hazards to entrants. RMSO strongly recommends that at least one employee remain outside of the confined space as an attendant.

1. Fill out an Alternate Entry Checklist before entry begins.
2. Evaluate the known hazards and prepare control measures including gathering required equipment. (e.g., calibrate or bump test the gas monitor)
3. Guard the opening promptly to prevent individuals and objects from falling into the space.
4. Test the internal atmosphere before any employee enters the space.
5. Use continuous forced air ventilation if an atmospheric hazard exists. No employee may enter the space until acceptable entry conditions are attained. Continue until all employees have left the space.
6. Use a retrieval system, if needed, PPE and communication methods.
7. Test the atmosphere periodically (at least every hour) to detect an accumulation of a hazardous atmosphere.
8. When work is complete secure the space and remove guards.
9. Submit the completed Alternate Entry Checklist to the Entry Supervisor for record keeping.

Emergency Procedures

If a hazardous atmosphere or any other serious hazard is detected during entry:

1. Evacuate the confined space immediately, if possible
2. Do not enter the confined space to attempt rescue
3. Call 911 (or radio the PPL service desk)
4. Report to the entry supervisor
5. Do not reenter the confined space until it has been reevaluated by the entry supervisor or RMSO

Permit Space Procedures (d)-(k)

The following procedures will be used in permit-required confined spaces not eligible for alternate entry. Every job that requires entry into a permit-required confined space will have an entry supervisor, attendant and entrant. Consider alternatives to confined space entry. If entry is necessary then follow these procedures.

1. Fill out a Confined Space Entry Permit and post at the work site before entry.

Steps 2 through 6 are the same as the alternate entry procedures.

7. Monitor the atmosphere continuously to prevent accumulation of a hazardous atmosphere. Document conditions at least once an hour on the entry permit.
8. Use lockout/tagout procedures to eliminate mechanical, electrical, water and other identified hazards before entering the space when possible.
9. An attendant must be present and monitoring the entry at all times.
10. When work is complete secure the space and remove guards.
11. Submit the completed Confined Space Entry Permit to the Entry Supervisor for record keeping.

Symptoms of Exposure to Atmospheric Hazards

Increased respiration and pulse
Impaired judgment and coordination
Dizziness / Lightheadedness
Headache
Fatigue
Irritated eye, nose, throat, skin
Cough
Nausea
Unconsciousness
Fainting

Symptoms of Exposure to Heat Stress

Skin rashes
Muscle cramps / spasms
Abdominal pain
Heavy sweating
Headache
Dizziness
Weakness
Irritability
Confusion
Fainting

Heat Stroke: red, hot, dry skin, no sweating

Appendix B: Confined Space Entry Permit

CONFINED SPACE ENTRY PERMIT

University of Wyoming

Location:			Work Order #:			
Reason for Entry/Task Description:						
Atmospheric Hazards: <input type="checkbox"/> Oxygen deficiency <input type="checkbox"/> Combustible gas <input type="checkbox"/> Toxic contaminants Physical Hazards: <input type="checkbox"/> Mechanical <input type="checkbox"/> Electrical <input type="checkbox"/> Chemical/biological <input type="checkbox"/> Noise <input type="checkbox"/> Other Hazard Controls: <input type="checkbox"/> Ventilation <input type="checkbox"/> Lockout/tagout <input type="checkbox"/> Personal Protective Equipment <input type="checkbox"/> Other:						
Beginning Date and Time	Ending Date and Time	Access orientation: <input type="checkbox"/> side <input type="checkbox"/> top <input type="checkbox"/> bottom			Access Size: <input type="checkbox"/> <24" <input type="checkbox"/> ≥24"	
Authorized Personnel						
Entrants' Names	Dept./Shop or Company	Attendants' Names	Dept./Shop or Company			
Required Equipment						
Communication Methods with Entrants: <input type="checkbox"/> Voice <input type="checkbox"/> Visual <input type="checkbox"/> Phone <input type="checkbox"/> Radio <input type="checkbox"/> Other: In case of emergency call 911 or radio Physical Plant Service Desk 766-6225						
Personal Protective Equipment: <input type="checkbox"/> Coveralls <input type="checkbox"/> Tyvek® suit <input type="checkbox"/> Safety shoes/boots <input type="checkbox"/> Hard hat <input type="checkbox"/> Leather gloves <input type="checkbox"/> Chemical resistant gloves <input type="checkbox"/> Welding gloves <input type="checkbox"/> Welding hood <input type="checkbox"/> Eye protection <input type="checkbox"/> Hearing protection <input type="checkbox"/> Respiratory protection <input type="checkbox"/> Harness/life line <input type="checkbox"/> Tripod/winch <input type="checkbox"/> Other:						
Traffic Control: <input type="checkbox"/> Barricades <input type="checkbox"/> Vests <input type="checkbox"/> Lights <input type="checkbox"/> Signs			Hot Work: <input type="checkbox"/> Yes (Hot Work Permit required) <input type="checkbox"/> No			
Atmospheric Testing Record						
Gas Monitor ID#: _____		Date of Last Calibration: _____				
Tests	Acceptable Entry Conditions	Before entry	Time:	Time:	Time:	Time:
Oxygen	19.5 – 23.5%					
Combustible Gas	Below 10% LEL					
Carbon Monoxide	0 – 25 ppm					
Other:						
Initials of Tester						
Entry Supervisor Approvals						
Name (print): _____ (Sign): _____ Date: _____ Time: _____ Name (print): _____ (Sign): _____ Date: _____ Time: _____ Permit cancelled because: <input type="checkbox"/> work completed <input type="checkbox"/> hazardous condition <input type="checkbox"/> other: _____ Comments:						

INSTRUCTIONS - Confined Space Entry Permit University of Wyoming

A. Pre-entry

1. Check the UW Confined Space Inventory. Use the information found in the inventory in planning the entry. If the information in the inventory is not correct or the space is not listed notify the entry supervisor and UW Occupational Safety & Health (OSH).
2. Evaluate the known hazards and prepare control measures. This will include gathering the required equipment and checking it for proper working condition (e.g., bump test or calibration of gas monitor).
3. Completely fill out a confined space entry permit (Appendix B) and post onsite.
4. Notify the Physical Plant service desk before entry. Provide the date, time, location and reason for entry. Also provide the name and contact information of the Entry Supervisor.
5. Notify OSH and the Laramie Fire Department of entry if immediately dangerous to life and health (IDLH) conditions are anticipated. OSH 766-3277 Laramie Fire Department 721-5332
6. Guard the opening to prevent individuals and objects from falling into the space.

B. Entry

1. An attendant must be present and monitoring the situation at all times.
2. Eliminate any hazards associated with removing the cover to the space before removing the cover.
3. Test the internal atmosphere before any employee enters the space.
4. Use continuous forced air ventilation if an atmospheric hazard exists. No employee may enter the space until acceptable entry conditions are attained. Continue until all employees have left the space.
5. Monitor the atmosphere continuously to prevent accumulation of a hazardous atmosphere. Document conditions at least once every hour on the entry permit.
6. Use lockout/tagout procedures outlined in the UW Control of Hazardous Energy Program to eliminate sources of hazardous energy before entering the space when possible.
7. Retrieval system, if needed, required PPE and communication methods are available and in use.
8. Entrants must self-rescue/exit the space immediately if a hazardous condition arises or acceptable entry conditions are otherwise violated.

C. Post-entry

1. When work is complete secure the space and remove guards.
2. Submit the entry permit to the Entry Supervisor for cancellation and record keeping.

Appendix C: Alternate Entry Checklist

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	Regulated Materials Management Center Phone: (307)766-3696 Fax: (307)766-3699
	Web: http://www.uwyo.edu/ehs Email: UWEHS@uwyo.edu

Alternate Entry Checklist

This check list must be filled out for confined spaces that qualify for alternate entry procedures. Submit the complete checklist to the entry supervisor when work is completed.

	Yes	No
1. Does this space qualify for alternative entry procedures? See Appendix A: Confined Space Field Guide for guidance	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the gas monitor been bump tested or calibrated?	<input type="checkbox"/>	<input type="checkbox"/>
3. Will an attendant be available for the duration of the entry?	<input type="checkbox"/>	<input type="checkbox"/>
4. Has the confined space opening been guarded to prevent individuals and objects from falling into the confined space?	<input type="checkbox"/>	<input type="checkbox"/>
5. Did you survey of the surrounding area for hazards such as drifting vapors from tanks, piping or sewers?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have all sources of mechanical, electrical, water, and other hazards been eliminated by proper lockout/tagout procedures? (If not, a full permit is required.)	<input type="checkbox"/>	<input type="checkbox"/>
7. Retrieval system, if needed, is available and in use?	<input type="checkbox"/>	<input type="checkbox"/>
8. Entrant and Attendant can communicate during entry?	<input type="checkbox"/>	<input type="checkbox"/>
9. Did you test the atmosphere of the confined space prior to the entry?	<input type="checkbox"/>	<input type="checkbox"/>
10. Did the atmosphere check satisfy acceptable entry conditions (no alarms given)?	<input type="checkbox"/>	<input type="checkbox"/>
11. If a hazardous atmosphere exists, did you supply continuous forced air ventilation into the confined space?	<input type="checkbox"/>	<input type="checkbox"/>
12. Will the atmosphere be periodically monitored while the space is occupied?	<input type="checkbox"/>	<input type="checkbox"/>

NOTICE: If any of the above questions are answered "No" do not enter confined space. Contact the entry supervisor.

In case of emergency call 911 or radio the Physical Plant Service Desk 766-6225.

Location: _____ Date: _____

Checklist completed by: _____ Entry Supervisor: _____

Appendix D: Guidelines for Working Safely the UW Utility Tunnels



Guidelines for Working Safely in the UW Utility Tunnels

Access to the tunnels does not always require a written permit. However, ÜT ÒU and Physical Plant recommend abiding by the following guidelines as basic safety precautions.

1. Use the buddy system. Never enter alone.
2. Bring an extra light source.
3. Notify a coworker that you will be doing work in the tunnels and when you expect to return.
4. Bring a means of communication (e.g., radio, phone).
5. Know the hazards present in the area where you will be working. Some areas may require a written permit.
6. Know the closest means of egress.

In addition, ÜT ÒU recommends that UW employees managing contractors that need to enter the tunnels coordinate an entry plan with a knowledgeable UW employee (e.g., PPL facilities engineering, PPL mechanical trades). The plan should include the guidelines stated above and disclosure of all the known hazards (e.g. asbestos, medium voltage electrical) in the specific areas that will be accessed.

Appendix E: Confined Space Inventory

The Confined Space Inventory is available through ÜT ÙU and Physical Plant.