



**University of Vermont
Department of Physical Plant
Permit-Required Confined Space Entry Program
in accordance with
OSHA 29 CFR 1926 Subpart AA**

REVISED AND DISTRIBUTED BY:
THE UNIVERSITY OF VERMONT
DEPARTMENT OF PHYSICAL PLANT
TRAINING AND COMPLIANCE OFFICE

Table of Contents

Introduction	1
Program	3
Permit Required Confined Spaces	4
Permit-Required Entry Procedures	5
Personal Protective Equipment	8
Contractor Requirements	10
UVM Confined Space Rescue Team	11
Training	13
Program Critique	13
Definitions	14
Confined Space Entry – “Steps to Successful Entry”	Appendix A
Confined Space Entry Permit (blank)	Appendix B
Confined Space Rescue Hazard Assessment (blank)	Appendix C
Confined Space Profile (blank)	Appendix D

Confined Space Entry Program Department of Physical Plant

Introduction

The Vermont Occupational Safety and Health Administration (VOSHA) set forth in 29 CFR 1926 Subpart AA the requirements of working in confined spaces. The regulation contains requirements for practices and procedures to protect employees from the hazards posed by entry into confined spaces. The distinction between confined spaces and permit spaces is crucial to understanding what the standard requires. Briefly, a permit space is a confined space containing a serious hazard(s) or potential hazard(s). The University of Vermont Competent Person from the Training & Compliance Office (TCO) must evaluate all confined spaces to determine whether they are a “confined space” and/or a “permit space”.

Although the University recognizes VOSHA standard 1910.146 (Permit Required Confined Spaces for General Industry), the University has concluded that following the newer standard 1926 Subpart AA (Confined Spaces in Construction) is more protective for employees, therefore the University will adhere to the 1926 Subpart AA standard.

Responsibilities

A **Competent Person** is “one who is capable of identifying existing and predicable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them”. **Regardless of whom is entering the confined space only a TCO Competent Person may authorize the reclassifying of a Permit Space as a Non-Permit Space. In addition, regardless of whom is entering the confined space only a TCO Competent Person may authorize alternative procedures for a permit space.**

The **Host Employer** is the employer that owns or manages the property where the work is taking place. For contracted projects, the University of Vermont’s Hiring Manager is responsible for assuming the duties of the Host Employer for confined spaces on University property.

A **Controlling Contractor** is the employer with overall responsibility for construction at the worksite (for example, the General Contractor or Construction Project Management). The controlling contractor is responsible for coordinating entry operation when there is one or more entry employer and when other activities on the site could foreseeably result in a hazard in the permit space. In addition, controlling contractors must provide any information they have about any permit space hazards and precautions previous used in the space.

An **Entry Employer** is an employer who decides that an employee it directs will enter a permit space. There may be more than one entry employer if the employees of multiple employers must enter the space. Each entry employer is responsible for complying with all provisions in the VOSHA Confined Space Standard and their written program except those specifically imposed on the controlling contractor.

Where the host employer has information about permit space hazards on the site, it must share that information with the controlling contractor, who is then responsible for sharing it with the other employers on the site, including but not limited to the entry employer. The following **Table 1** outlines the duties of employers under the Confined Spaces Standard and this Program.

TABLE 1 – Duties of Employers

Category of Employer	Employer Responsibilities
All Employers	<ul style="list-style-type: none"> ● Identify all confined spaces in which their workers may work and determine whether any are permit spaces. If its workers are required to enter permit spaces, the employer is an “entry employer.” ● Employers who are not “entry employers” must make sure their workers stay out of any permit spaces present on the site, unless the workers are authorized for entry.
Entry Employers	<ul style="list-style-type: none"> ● Protect workers against permit space hazards by complying with the standard. ● Inform controlling contractor of the program to be followed and hazards encountered in permit spaces.
Controlling Contractors	<ul style="list-style-type: none"> ● Share information it has about permit space hazards with entry employers and other employers whose activities may create hazards in the permit space. ● Coordinate entry operations when there is more than one entry employer. ● Coordinate worksite operations when permit space entry occurs during other activities at the site that might create a hazard in the space. ● For scheduled entries notify TCO 24 hours prior to entry for auditing purposes.
Host Employers	<ul style="list-style-type: none"> ● Share information it has about permit space hazards with the controlling contractor. Transfer of information shall be documented.

It should be noted that it is the responsibility of all Entry Employees and Controlling Contractors to arrange for or provide their own rescue service as required under in 29 CFR 1926 Subpart AA. The University of Vermont, Physical Plant Department has an internal rescue team that has been established solely for the purposes of rescue for its employees.

This written program establishes the procedures to be used by Physical Plant employees for entry into all **Confined Spaces** defined by OSHA as meeting the following criteria:

1. Is large enough and so arranged that an employee can bodily enter it;
2. Has limited or restricted entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means for entry); and
3. Is not designed for continuous employee occupancy.

A space has a limited or restricted means of exit if a person could not readily escape from the space in an emergency. Any of the following factors indicate that a work space has a limited or restricted means of exit:

- The need to use a ladder or movable stairs, or stairs that are narrow or twisted;
- A door that is difficult to open or a doorway that is too small to exit while walking upright;
- Obstructions such as pipes, conduits, ducts, or materials that a worker would need to crawl over or under or squeeze around;
- The need to travel a long distance to a point of safety.

Entry into a confined space has occurred if any part of the person's body breaks the plane of an opening to a confined space. Confined spaces that can typically be encountered by Physical Plant personnel include tanks, concrete vaults, sumps, boilers, tunnels, and exhaust systems.

Program

The Physical Plant Department is committed to adequately safeguarding all their employees during the performance of their jobs. This program is intended to identify permit required confined spaces and their hazards and provide the necessary training to facilitate safe entry. It will be the responsibility of each employee to follow the stated guidelines for confined space entry and practice safe work practices. The Training & Compliance Office (TCO) is responsible for implementation and review of this program.

Permit-Required Confined Spaces

A permit-required confined space (permit space) is a confined space that:

- (1) Contains or has the potential to contain 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; or
- (4) Contains any other recognized serious safety or health hazard.

Examples of Permit-Required Confined Spaces include steam holes, concrete vaults and boilers.

A list of permit-required confined spaces is available on the University of Vermont, Training & Compliance home page (<http://tco.w3.uvm.edu/>). The list is available on the TCO webpage to all University employees that have successfully completed training pursuant to 1926 Subpart AA.

Permit-Required Entry Procedures

Permit Required spaces are labeled with the following label:



The following items will be covered but not limited to in the specific written procedures.

1. Review the **Confined Space Entry – “Steps to Successful Entry”** contained under **Appendix A** of this report.
2. Cordon off work area.
3. Eliminate pressure buildup before entry cover is removed, if applicable.
4. Guard opening to the entrance with a railing or other barrier.
5. Review procedures necessary for safe entry with team.
6. Complete the **Confined Space Entry Permit** prior to entry and post at the entry portal. A copy of a blank permit is included in **Attachment B**.

7. Prior to an entry, the internal atmosphere must be tested, with a calibrated direct-reading instrument, for the following conditions as noted in **Table 2**:

TABLE 2

Conditions/Contaminant	Acceptable Level for Entry
Oxygen	19.5 to 23.5 percent
Flammable Gas/Vapor	<10 percent of LEL
Hydrogen Sulfide	<10 ppm
Carbon Monoxide	<10 ppm

The atmosphere tested prior to entry must be conducted at intervals of approximately every four feet vertically, with a direct reading instrument to monitor the contaminant levels.

NOTE: Use of other gas/vapor detection instruments: Should the need arise to monitor for other gases or vapors, a photoionization detector (PID) may be utilized. PID Meters are located at the Davis Zone, Environmental Safety Facility (ESF) and TCO.

ITX Four gas meter Calibration Locations:

- TCO Shop – Fort Ethan Allen
- Central Heat Plant Control Room
- Davis Zone – Davis Zone Shop at Loading Dock
- South Zone in the Life Safety Office of Davis Building
- MCM – Given Building Room E019
- Trinity Zone – Trinity Zone Shop
- Utilities Zone at Centennial

All four gas meters (and four gas meters with PID capabilities) will be auto-calibrated when the meter is placed on the appropriate docking station. Questions regarding the meters should be directed to the TCO (656-SAFE).

Entry Procedures – General

All planned entries shall occur during normal working hours between 7 AM to 3:30 PM. If entry needs to occur outside normal working hours an effort needs to be made to ensure enough rescue personnel are available.

Prior to Entry

1. Review available information on the confined space located at the TCO website.
2. Gather the appropriate equipment, for example:
 - o Ventilators

- Communications, i.e., walkie-talkie/radio, cellular phone, tag line, etc. if verbal contact cannot be maintained.
 - Personal protective equipment (PPE) including hard hats (if appropriate), gloves, safety shoes, coveralls, and respirators (when applicable)
 - Intrinsically safe lighting (labeled as Class I Division I)
 - Ladders, if needed
 - Harness, lifeline and winch or pulley
 - Air monitoring meters with alarms
 - Barriers/Shields to secure the entry site from pedestrians
3. At a minimum of 60 minutes prior to entry, call Service Operations Support (SOS) and have them page the Confined Space Rescue Team to let them know of the planned entry and to locate the Confined Space Rescue Truck on campus.
 4. Verify that the atmospheric conditions are within the acceptable ranges as noted in **Table 2**.
 5. Verify that other conditions such as electrical supply, have been locked out or otherwise controlled.
 6. Complete the Permit (See Appendix B).
 7. If appropriate, ventilate the space using continuous forced-air mechanical systems that meet the requirements of 1926.57 (Ventilation) to control atmospheric hazards.
 8. Station at least one attendant outside of each space to be entered for the entire duration of the entry whose sole responsibility is to monitor activities within the space, and prevent entry by unauthorized persons.

During Entry

1. **Conduct continuous air monitoring with direct reading instruments with alarms, at the location where the authorized entrants are working.** Periodic monitoring can be utilized if the monitoring is of sufficient frequency to ensure that any atmospheric hazards are being controlled at safe levels. If continuous monitoring is not used, periodic monitoring is requires with sufficient frequency to ensure that acceptable entry conditions are being maintained during the course of entry operations.

If any of the airborne readings fall outside of the range noted above in **Table 2**, or if any of the four gas meter sensor alarms are activated, the following actions must be taken.

- a) All entrants shall leave the space immediately.
- b) Re-evaluate the atmosphere from outside the space.

- c) Implement additional measures to assure that a hazardous atmosphere will not develop prior to re-entry.
- d) Prepare a written certification indicating the date, location of space, atmospheric readings, and signature of certifying person prior to re-entry.

If for any reason the procedures and operations used at a site are judged to be inadequate by the team or the supervisor, the supervisor has the authority and responsibility to cancel the permit and revise the program to correct deficiencies.

After Entry Is Completed

1. Call Service Operations Support (SOS) and have them page the Confined Space Rescue Team to let them know that the entrance is complete.
2. Remove equipment and close up the entry site.
3. Mail or email a copy of the permit to the Training and Compliance office.

Emergency Procedures

- 1. Call Service Operations Support at 656-2560, Press #1 when recording starts for an operator to request the UVM Confined Space Rescue Team.**
 - a. If the attendant can conduct a non-entry rescue, ask SOS to call 911 for emergency services otherwise proceed to step 2.**
- 2. Call 911 for emergency services. Provide specific location of the emergency and other pertinent details of the confined space and type of emergency.**
- 3. Attempt to perform a non-entry rescue.**
- 4. Do not leave the area until rescue has been completed or you have been relieved of your duties by the Incident Commander.**

Personal Protective Equipment

The purpose of Personal Protective Equipment (PPE) is to shield or isolate individuals from the chemical, physical, and biological hazards that may be encountered during confined space operations, as it is not always apparent when exposure occurs. Chemicals and petroleum products can cause serious injury and death if inhaled or when coming in contact with unprotected skin.

It is important the PPE users realize that no single combination of protective equipment and clothing is capable of protecting a worker against all hazards. PPE can itself create

significant hazards to the wearer such as heat stress and physical and psychological stress in addition to impaired vision, mobility, and communication. PPE should be selected on a case-by-case basis because overprotection as well as under protection can be hazardous and should be avoided.

PPE must be worn whenever the wearer faces potential hazards arising from chemical exposure.

The minimum personal protective equipment requirements in a confined space include:

- **Safety Glasses/Goggles:** to be worn at all times, if a full face-piece respirator is not donned.
- **Work Gloves:** standard work gloves - to be worn in dry conditions; nitrile or butyl rubber glove to be worn in wet conditions.
- **Safety Work Shoes/Boots:** to be worn at all times.

If conditions warrant, addition; PPE must be utilized including but not limited to:

- **Respirator:** to be worn as determined by the Supervisor signing the Permit or from existing Hazard Assessment.
- **Hearing Protection:** to be worn when excessive noise requires a person to yell to communicate from a distance of 3 feet. Readings can be taken by the competent person upon request.
- **Hard Hat/Bump Hat**

In cases where employees plan to enter a Confined Space that has not been entered previously, no historical documentation of the conditions inside exists, or specific procedures have not been developed, the following is required: Contact the TCO Competent Person (656-SAFE) to develop identify hazards, develop written procedures and determine if it is a permit space.

Contractor Requirements

University of Vermont contractors who perform entry into permit required confined spaces on site such as: tank testing, inspections, and cleaning must follow their own program and provide it for review to the TCO Competent Person (CP) prior to performing work. All contractor confined space entry programs will be reviewed to assure that they are at least as stringent as VOSHA & the University of Vermont's program. Contractors are also required to submit up to date documentation of employee VOSHA confined space training.

UVM Confined Space Rescue Team

Employees of the University of Vermont who are authorized to provide rescue services via the UVM Confined Space Rescue Team (Rescue Team) shall be provided with, and trained to use, the personal protective equipment and rescue equipment necessary for making rescues from permit spaces. The Rescue Team will maintain a UVM Rescue Vehicle; each member of the Rescue Team will be provided with a key to the rescue vehicle.

Each member of the rescue service shall be trained to perform the assigned rescue duties. Each member of the rescue service shall also receive the training required of authorized entrants.

Each member of the rescue service shall practice making permit space rescues at least once every 12 months, by simulated rescue operations in which they remove dummies, mannequins, or actual persons from the actual permit space or from representative permit spaces.

All members of the Confined Space Rescue Team (CSRT) shall be trained in professional first-aid and in cardiopulmonary resuscitation (CPR) and AED.

Prior to permit-required confined space entry, the entry supervisor will confirm that the on-site UVM Rescue Vehicle is located on the University grounds. A means for summoning those services will be established prior to entry.

The member of the CSRT delivering the rescue vehicle to the site and will bring a 4-gas meter as well.

Rescue Procedures - General

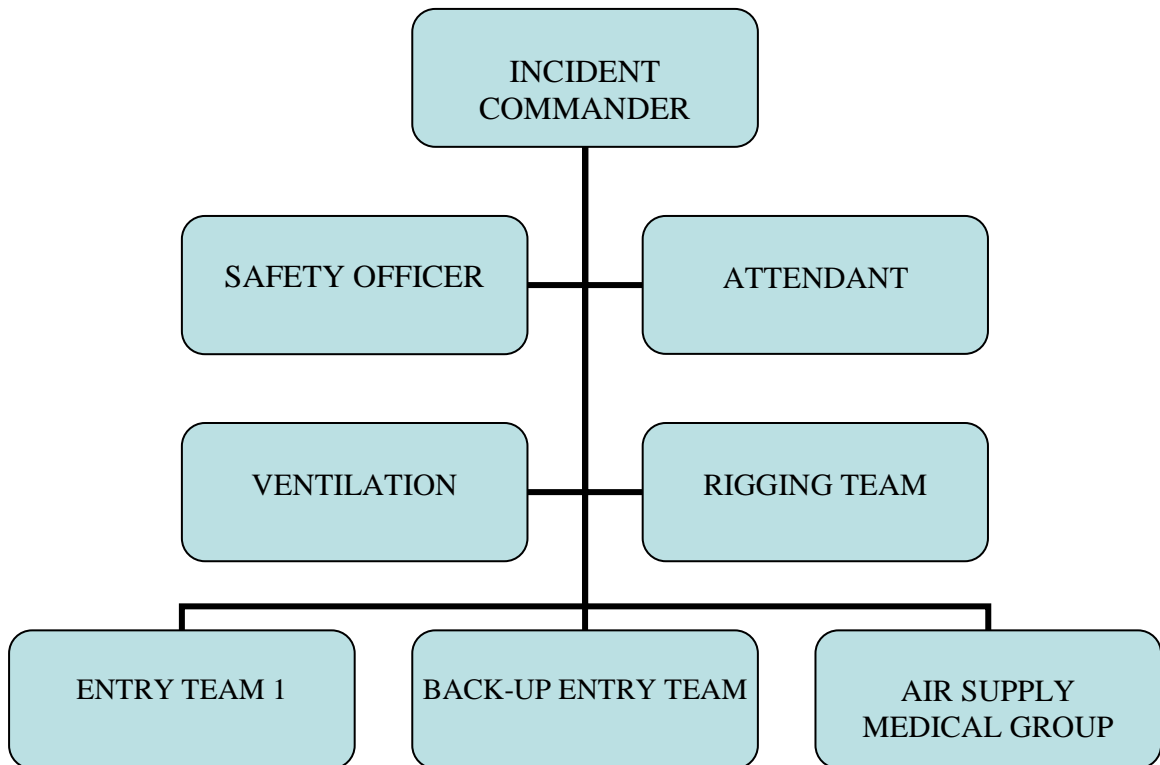
In the case of an emergency the **Attendant** shall immediately summon the UVM Rescue Team and then the local ambulance service and fire department will be contacted. See the above section ***Emergency Procedures*** specifically page 8 of this Program.

1. Below is the Confined Space Rescue Incident Command System (ICS) Organizational Chart. It should be noted that some ICS Organizational Charts are more complex and include additional

duties/roles, however it is likely that a confined space emergency on the UVM campus will be relatively minor in nature, and therefore not require a significant amount of staff/roles. If the incident remains small then one person can assume multiple roles. The ICS is able to expand if the incident grows in order to keep an efficient span of control.

2. The first Rescue Team member to arrive on site shall assume the role of **Incident Commander** and begin to select a safe and logical command post upwind from the incident. The Incident Commander should assign the role of **Safety Officer**. **Attendant** shall maintain duties of the Attendant and continue to monitor the atmospheric conditions. The Incident Commander (or any other role in the ICS) may relinquish his/her role to a more experienced team member or to a member of another rescue team (such as Burlington Fire Department).
3. A “hot zone” and “warm zone” shall be set established under coordination of the Safety Officer.
4. Non-Entry Rescue shall be attempted before entry-rescue is considered.
5. Rescuers will be designated as Entry Team 1 and Back-Up Entry Team and shall consist of a minimum of two people per team.
6. Rescuers will be provided with their own atmospheric testing equipment and shall not rely on the monitoring device used by the original entrants.
7. Rescuers will enter confined spaces for rescue purposes using SCBA (or an airline with 30-minute escape bottle). An additional air line or 30-minute breathing air cylinder will be brought into the confined space for each victim, if possible.
8. Atmospheric conditions in the confined space will be continuously monitored and rescuers will evacuate immediately if dangerous conditions are encountered.
9. The back-up entry team shall be prepared to enter the confined space as called upon by the Incident Commander.
10. Remove the victim as quickly as possible through the use of a ladder, backboard, or other means, guiding the victim over obstructions and through turns and openings.

UVM Confined Space Rescue Team ICS Organizational Chart for Small Incident



Training

The University of Vermont will provide training to each employee whose work is regulated by the Standard, at no cost to the employee, and ensure that the employee possesses the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under the Standard. All training will be conducted pursuant to Section 1926.1207 of the Standard.

Program Critique

All confined space permits are to be copied and forwarded to the Safety Programs Coordinator who will review the permits annually, or sooner. Changes will be made as needed to update the program and correct noted deficiencies.

Definitions

Incident Commander: Responsible for overall management of the incident. Directly controls the command staff and the section chiefs.

Safety Officer: Responsible for developing and recommending measures for assuring personnel safety and to assess and/or anticipate hazardous and unsafe situations, Should not have any other responsibilities to distract them from primary duty. In large operations, the safety officer may have additional safety personnel assigned to specific areas of the operation who report to him.

Public Information Officer: Responsible for developing and releasing information about the incident to the news media, incident personnel and to other appropriate groups or agencies. University Communications Phone: (802) 656-2005

Air Supply: Responsible for all air supply, bottles, supplied air breathing apparatus and any other related items as they apply to the use of SAR< SCBA and he related breathing air supply.

Medical Unit: Responsible for the medical care of rescuers, which includes baseline readings for medical monitoring of the rescue team.

Attendant: Has many of the same duties as for work entry; communicating with the entry team, air monitoring, tracking entrants and equipment.

Ventilation: Responsible for ventilation inside and outside of the confined space.

Entry Team: Performs all duties inside the confined space, such as reconnaissance, patient packaging and extrication.

Back-Up Team: Ready to make entry if the entry team needs rescue.

Rigging Team: Responsible for the coordination and evacuation of patient and entry teams and operation of retrieval systems There maybe more than one rigging system involved whit the rescue operation. One required to gain access to the space, for example, a tripod over an opening and the top of a tank, and another to get the subject from the top of the tank to the ground. If a rigging system is required within the confined space, that will need to be constructed by the entry team.

Decon: responsible for all decontamination operations.

Medical Group: Responsible for medical care of patient(s).

APPENDIX A

Confined Space Entry – “Steps to Successful Entry”

Confined Space Entry – “Steps to Successful Entry”

<p>BEFORE INITIATING A CONFINED SPACE ENTRY, REVIEW THIS PRECAUTIONS CHECKLIST</p>
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Permits are required for confined space entry where: 1) the area contains or has the potential to contain a hazardous atmosphere; 2) the area contains a material with the potential to engulf a person; 3) the space has an internal configuration that could trap someone; and 4) the space contains any other recognized serious safety or health hazard.

PLEASE CHECK THE CURRENT LIST OF CONFINED SPACES TO SEE IF YOU'RE ENTRY LOCATION HAS BEEN IDENTIFIED AND TO PRINT OUT A PERMIT

(http://www.uvm.edu/%7Euvmpdp/TCO/?Page=Confined_Space/confinedspace.html).

IF THE SPACE IS NOT IDENTIFIED, CONTACT THE TRAINING AND COMPLIANCE OFFICE PRIOR TO PREPARING FOR SPACE ENTRY (656-7233).

PRIOR TO ENTRY:

- Complete the first page of the “Permit – Required Confined Space ~ Permit” and gather necessary entry equipment and PPE.
- Call Service Operations Support (SOS) and have them page the Confined Space Rescue Team. State the entry time and location. (SOS 656-2560).
- Setup the entry site per the requirements established on the first page of the permit. Mark the area to warn nearby personnel of the activity being performed.
- Verify that other conditions such as electrical supply, have been locked out or otherwise controlled.
- Take initial air monitoring data at the entry location and note the readings on the second page of the permit.
- Plan in advance procedures for summoning rescue and emergency services (i.e. Who will you call, what will you say, where will you meet them, etc.).
- Conduct a pre-entry meeting to discuss: 1) communication between entrant and attendant; 2) Emergency response planning; 3) any other potential job site hazards.

DURING ENTRY:

- Conduct air monitoring periodically at the entry site (e.g. Utility Hole) or continuously on the entrant (e.g. Tunnel System).

AFTER THE CONFINED SPACE ENTRY IS COMPLETE:

- Call Service Operations Support (SOS) and have them page the Confined Space Rescue Team to let them know the person is out of the confined space.
- Remove equipment and close up the entry site.
- Mail or fax a copy of the permit to the Training and Compliance office (Fax # 764-6620).

EMERGENCY AND ASSISTANCE TELEPHONE NUMBERS

FIRE – POLICE – RESCUE – EMERGENCY MEDICAL SERVICE

CALL IMMEDIATELY FOR ANY EMERGENCY INCLUDING CHEMICAL SPILL, FIRE, INJURED, TRAPPED OR SICK PERSON.

*** From the University of Vermont In-House Phone System** 9-1-1
*** From Cellular Phone Service contact UVM Police Services Directly** (802)656-3473

* When using cellular phone service 911 will be directed to Williston State Police.

Physical Plant Department Training and Compliance Office (Asbestos and Lead Management, Mold Remediation, Occupational Safety and Health)	(802)656-7233
Environmental Safety Facility (Chemical cleanup, disposal and storage)	(802)656-5400
Department of Risk Management (Accident Investigations, Insurance Services)	(802)656-3242
Concentra Medical Center (Medical Consultation and Evaluation)	(802)865-0042
Service Operations Support (Physical Plant Department) (Central Heat Plant- Off Hours)	(802)656-2560 (802)656-2649

APPENDIX B

Confined Space Entry Permit (blank)



UNIVERSITY OF VERMONT - PHYSICAL PLANT DEPARTMENT

CONFINED SPACE ENTRY PERMIT

THIS PERMIT MUST BE POSTED ON THE JOBSITE - VALID ONLY FOR INDICATED DATE

SECTION I - Permit Type

- Permit-Required vs Non-Permit Required options

SECTION II - General Information

Confined Space #, Type, Location, Purpose, Duration, Date, Supervisor, Phone #, Start/End Time

SECTION III - Personnel (Attach List if Necessary)

Table with columns: Position, Name, Time/In, Time/Out. Includes a note: ATTENDANT(S) SHALL NEVER ENTER SPACE!

SECTION IV - Hazards (Expected & Potential)

List All Hazard(s) Associated With This Entry (Refer to site specific "University of Vermont Confined Space Entry Information"):

SECTION V - Pre-Entry Preparations

SECTION VI - Equipment Isolation

- Drained, Flushed, Inerted, Purged, Ventilated, Other, Openings: Barricaded, Guarded, Flagged, Other

- Equip.: LOTO, Other, Lines: Bled, Blanked, Other

SECTION VII - Communication

SECTION VIII - Additional Safety Permits

- Voice, Visual, Radio, Cell Phone, Rope Signals, Other

- Hot Work, Health & Safety Plan, Other

SECTION IX - Confined Space Rescue/Emergency Response

NOTIFY UVM SERVICE OPERATION SUPPORT (SOS) @656-2560 PRIOR TO & AT COMPLETION OF ENTRY - MANDATORY!

- Call Placed to SOS, Name of Caller, Time Called (Start/End)

SECTION X - Personal Protective Equipment (PPE)

- Head Protection, Respiratory Protection, Footwear, Hearing Protection, Protective Clothing, Face/Eye Protection, Arm/Hand Protection, Other

SECTION XI - Safety Equipment

- Safety Harness/Lifeline, Tripod/Winch, Davit, Other

SECTION XII - Atmospheric Monitoring

*****PLEASE REFER TO REVERSE SIDE FOR ATMOSPHERIC MONITORING*****

SECTION XIII - Permit Cancellation

Permit Ended/Canceled By: (Print) (Signature) Date: Time:

- Reason Permit Ended/Canceled: Work Completed, Permit Expired, Emergency Situation

SECTION XIV - Notes & Additional Comments

MANDATORY! : SEND A COPY OF THIS PERMIT TO: PPD TCO, ATTENTION SAFETY PROGRAMS COORDINATOR

SECTION XII - Atmospheric Monitoring (Attach Additional Sheet(s) if Necessary)

Equipment Make, Model: <i>Industrial Scientific iTX Multi-Gas Monitor</i>	Serial # (last 3 digits):	Tester's Signature:
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		Continuous/Constant Monitoring (Monitor Carried w/ Entrant at all Times)		Pre-Entry Checks (Top/Middle/Bottom)			After Ventilation and/or Isolation (Top/Middle/Bottom)			Periodic Checks (Top/Middle/Bottom)		
Hazard	Acceptable Conditions											
Oxygen	19.5% - 23.5%											
LEL	<10%											
H2S	<2 ppm											
CO	<10 ppm											
Other :												
TIME INITIALS		:	:	:	:	:	:	:	:	:	:	:

		Periodic Checks (Top/Middle/Bottom)			Periodic Checks (Top/Middle/Bottom)			Periodic Checks (Top/Middle/Bottom)			Periodic Checks (Top/Middle/Bottom)		
Hazard	Acceptable Conditions												
Oxygen	19.5% - 23.5%												
LEL	<10%												
H2S	<2 ppm												
CO	<10 ppm												
Other :													
TIME INITIALS		:	:	:	:	:	:	:	:	:	:	:	

CONFINED SPACE PERMIT INSTRUCTIONS

Confined Spaces have all of the following :

- 1) Large enough to bodily enter and perform assigned work;
- 2) Has limited or restricted means for entry or exit; and
- 3) Is not designed for continuous employee occupancy.

Permit-Required Confined Spaces have one or more of the following characteristics:

- 1) Contains a known or potentially hazardous atmosphere;
- 2) Contains a material that can engulf entrants (i.e. water, sand);
- 3) Has an internal configuration that could entrap entrants; or
- 4) Contains any other recognized serious safety or health hazard.

PRIOR TO ENTRY : Obtain a copy of the "Confined Space Entry Information." Review all applicable UVM policies, and state/federal regulations.

- SECTION I** - Check the box with the appropriate entry type for which this permit is being used.
- SECTION II** - Fill in entry information. It is important to note entry date and time, as well as expected permit duration.
- SECTION III** - Fill in all personnel associated with the entry. Incl. individual "positions" (i.e. attend., entr., supervisor).
- SECTION IV** - List all expected and potential hazards. Be as specific as possible.
- SECTION V** - Check off all pre-entry preparations that are made.
- SECTION VI** - Check off all equipment that is isolated prior to the entry.
- SECTION VII** - Check off the type(s) of communication between the attendant(s) and entrant(s) that will be utilized.
- SECTION VIII** - List additional safety permits that are required [i.e. Hot Work, Health and Safety Plan (HASP), or other].
- SECTION IX** - Call SOS (656-2560) before and after entry. SOS will page the Confined Space Rescue Team (CSRT).
- SECTION X** - Check and describe specific PPE that will be utilized. Call the TCO (656-SAFE) with PPE questions.
- SECTION XI** - Check and describe specific safety equipment that will be utilized.
- SECTION XII** - Fill in atmospheric monitoring information. Monitoring must be conducted initially, following ventilation and/or isolation, periodically (every 10-30 mins unless otherwise determine), or continuously.
- SECTION XIII** - When entry is complete, the Supervisor shall sign off on the permit, and note reason for permit cancellation.
- SECTION XIV** - Fill in any additional information as needed.

TCO PERMIT REVIEW
(For Office Use Only)

APPENDIX C

Confined Space Rescue Hazard Assessment (blank)

Confined Space Rescue Hazard Assessment

Date: _____

Location: _____

Person Completing Assessment: _____

What is the Main Problem: _____

●How many personnel are trapped or injured?: _____

●How many personnel are unaccounted for and where were they last seen:

What type of space is this and what is it used for: _____

Is any product stored in the space?: _____

●Is there product storage hazards?: _____

●Is there viscous or heated material?: _____

●What residue is possible?: _____

●Is there an engulfment potential?: _____

What other hazards are there in the space?: _____

●Electrical, mechanical or stored energy?: _____

Where are the entry and exit points?: _____

●Are there other access problems?: _____

APPENDIX D

Confined Space Profile (blank)



Confined Space Profile

Building: _____ Contact: _____ Title: _____ Phone Number: _____

Address: _____ Evaluated By: _____ Title: _____ Date: _____

Department: _____ Floor: _____ Room Number: _____

Status: Permit Required Confined Space Non-Permit Required Confined Space Alternate Entry Procedures Reclassified Date: / /

Type of Space

- Air Handling Units/Systems**
 - Supply
 - Exhaust
 - Duct
 - Other
- Manhole**
 - Sewer
 - Chemical
 - Storm
 - Other
- Pits**
 - Equipment Pit
 - Elevator Pit
 - Neutralization Pit
- Ejector Pit**
- Other**
- Other**
 - Utility Vault
 - Pipe Chase
 - Tunnel
 - Tank/Vessel
 - Storage Bin
 - Boiler

Description: _____

Potential Hazards

- Unsafe to Remove Cover**
 - Excess pressure could blow cover off during removal
 - Pressurized chemicals
 - Vacuum
 - Extreme heat/steam
- Oxygen deficient atmosphere (<19.5% O₂)
- Flammable gases or vapors (>10% LEL)
- Oxygen enriched atmosphere (>23.5% O₂)
- Other toxic gases or vapors greater than established PEL
List if known: _____
- Combustion byproducts (flue gas, CO, CO₂)
- Entrapment (sloping shape that could trap a person)
- Engulfment (space contains material which could engulf entrant)
- Mechanical**
 - Fan blades and/or agitator
 - Unguarded energized equipment
 - Pinch points
 - Other
- Material harmful to skin
- Airborne combustible dust
- Electrical
- Temperature extremes
- Hanging materials which could fall
- Noise
- Decaying waste (sewage, stagnant water, H₂S, methane)
- Other hazardous materials depending on area being exhausted

Entry Information

Proposed Number of Entry Times Per Year: _____ Entry/Egress Location(s): Top Bottom Sides

Proposed Number of Employees Entering the Space:
 Regular Entrants Different Entrants

Potential Reasons for Entry/Type of Work Proposed within the Confined Space: _____

Initial Atmospheric Testing

Date: _____ Time: _____ AM _____ PM Sampled By: _____

Oxygen: _____ % Hydrogen Sulfide: _____ ppm
 Combustibles: _____ % Carbon Monoxide: _____ ppm
 Other: _____

Instrument Type: _____
 Model Number: _____
 Serial Number: _____