



POLICIES AND PROCEDURES

DEPARTMENT: Environmental Health and Safety

SUBJECT: CONFINED SPACE PROGRAM

Original Date of Issue: 01/01/2009

Reviewed	01/09	04/09	01/2012	05/2012	03/2016	07/2017		
Revised	01/09		01/2012	05/2012	03/2016	07/2017		

PURPOSE: To establish safe working practices for entering and working in confined spaces.

SCOPE: Applies to all employees, contractors, or other individuals whose job duties require them to work directly in confined spaces.

POLICY: People who enter confined spaces face increased risk of exposure to serious physical injury from hazards such as entrapment, engulfment, and hazardous atmospheric conditions. Therefore, strict adherence to this policy is required.

DEFINITIONS:

Confined Space: A space that is large enough and so configured that a person can bodily enter and perform assigned work and has limited or restricted means of entry and exit and is not designed for continuous occupancy.

Examples of confined spaces include: manholes, storage tanks, sub-cellars, bins, boilers, septic tanks, sewers, utility tunnels, chimneys, ducts, and wells. A confined space can also be open topped, especially if it is four feet or more in depth.

Permit Required Confined Space: A confined space that has one or more of the following characteristics:

- Contains, or has the potential to contain, a hazardous atmosphere;
- Contains a material that has the potential for engulfing an entrant;
- Has an internal layout such that someone entering could be trapped or asphyxiated by inwardly converging walls or a floor that slopes downward and tapers to a smaller cross section;
- Contains any other recognized serious safety or health hazard, for example, asbestos or noise.

Non-Permit Required Confined Space: A confined space which is completely free of hazards and can be so proven without entering the space. The entrant must be a qualified person and would be able to work alone with no safety attendant required.

Confined Space Rescue Team – A confined space rescue team is only needed to be on stand by when a non-entry rescue cannot be performed by attendant because the entrant has untethered from tripod line. A confined space rescue team shall be “on-site” when there is an IDLH condition or an entrant is no longer tethered to non-entry rescue equipment. If initial air monitoring or continuous monitoring shows that there is an immediate dangerous to life and health (IDLH) FOC will never go into a confined space where there is an IDLH condition. Confined space meters alarm before IDLH conditions are met. If needed FOC will enter into a contract with a confined space rescue team company and notify that company of entries where the contracted service will be needed.

NOTE: A confined space can only be designated a non-permit required confined space by the Department of Environmental Health and Safety (EH&S).

Confined Space Qualified Person: A confined space qualified person is an employee who has had confined space training and is familiar with:

- Recognition of hazards associated with entry into confined spaces;
- Procedures for use of entry permits;
- Atmospheric testing techniques and methods;
- Interpretation of atmospheric test results;
- Ventilation methods and equipment;
- Use of personal protective equipment;
- Safe work practices;
- Rescue techniques and equipment;
- Use of respirators.

PROCEDURE:

I. Identification of Confined Spaces

1. The Department of Environmental Health and Safety (EH&S) shall assist departments with identifying all permit required confined spaces in their area.

2. Departments are responsible for posting signs approved by EH&S on all permit required confined spaces. For example a sign reading "Danger – Confined Space Permit Required, Do Not Enter."

II. Entry Pre-Requisites

1. Supervisors who authorize employees to work in confined spaces must be confined space qualified.
2. Only confined space qualified entrants may enter a permit required confined space.

III. Pre-Entry Procedures

1. Employees whose work requires them to enter a confined space must notify their supervisor to obtain a confined space permit and specific instructions prior to entering.

2. The Supervisor must:

- Obtain a Confined Space Entry Permit (Appendix A) and provide all required information, including estimated entry time(s).
- Contact the EH&S at 257-3310 for notification of CS work.
- Arrange for all "Special Requirements" and environmental testing as specified on the permit. "Special Requirements" include, but are not limited to:
 - Lock Out/Tag Out, including blank, cap, purge, flush or vent lines
 - Lifelines, harness, emergency tripod, etc.
 - Lighting and ventilation
 - Respirators, breathing apparatus, PPE, etc.
 - Posting and securing access to the confined space as necessary
 - Fire extinguishers
 - Hot Work Permit
 - Hiring of Rescue team company if required.
- Review entry requirements with entrants and attendants.
- Ensure that all "Special Requirements" are appropriately completed, provided, and in place, as required.

3. Before a permit required confined space is entered, the atmosphere in the area must be tested for oxygen levels, flammable gases and vapors, contaminants, and physical hazards such as noise, temperature extremes, engulfment and other serious safety or health hazards and tested periodically thereafter.

- Initial and periodic testing shall be performed by authorized entrant, attendant or entry supervisor and documented on CS permit. Periodic recording of atmospheric conditions shall happen throughout entry and documented on CS permit at least every 15 minutes (use space on back of permit for any needed entries) . Documentation of results in time increments depend on length of entry in space provided on CS permit.
- Subsequent testing may be done by other qualified personnel.
- Atmospheric conditions are considered unacceptable if:
 - Oxygen levels are less than 19.5% or greater than 23.5%.
 - Flammable gas or vapor is at a concentration greater than 10% of its lower explosive limit (LEL).
 - Airborne combustible dust at a concentration that obscures vision at a distance of five feet or less.

- Atmospheric concentration of a substance is greater than the OSHA Permissible Exposure Level (PEL) or ACGIH Threshold Limit Value (TLV) established for that substance.
- If test results show that the atmospheric conditions in the confined space are unacceptable, entry into that area will be prohibited or discontinued by the EH&S or the entry supervisor until conditions are brought into acceptable limits.
- A copy of the completed permit must be supplied to EH&S.

IV. Entry Requirements for Entry Supervisor Authorized Entrants and Attendants

1. Confined space entry supervisor must ensure that all "Special Requirements" have been provided and established and that environmental testing results are acceptable. In addition, the entrant must:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure
- Properly use equipment as required, stay tethered to life line and tripod.
- Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space as required
- Alert the attendant whenever:
 - the entrant recognizes any warning sign or symptom of
 - exposure to a dangerous situation
 - the entrant detects a prohibited condition
 - stay tethered to life line at all times
 - if entrant has to untether from life line notify the attendant so the attendant can notify rescue team, this should be discussed before entry to ensure contracted confined space rescue team is on stand-by.
- Exit from the permit space as quickly as possible whenever
 - an order to evacuate is given by the attendant or the entry supervisor
 - the entrant recognizes any warning sign or symptom of
 - exposure to a dangerous situation
 - the entrant detects a prohibited condition
 - or an evacuation alarm is activated

2. Duties of Attendants. The employer shall ensure that each attendant:

- Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure
- Is aware of possible behavioral effects of hazard exposure in authorized entrants
- Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants accurately identifies who is in the permit space
- Remains outside the permit space during entry operations until relieved by another attendant
- Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space
- Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under an of the following conditions:

- If the attendant detects a prohibited condition
- If the attendant detects the behavioral effects of hazard exposure in an authorized entrant
- If the attendant detects a situation outside the space that could endanger the authorized entrants
- If the attendant cannot effectively and safely perform all the duties required
- Assist with non entry rescue by winching in entrant when needed and/or summon rescue and other emergency services as soon as the Attendant determines that authorized entrants any need assistance to escape from permit space hazards
- Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
 - Warn the unauthorized persons that they must stay away from the permit space
 - Advise the unauthorized persons that they must exit immediately if they have entered the permit space
 - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space
- Assist in non-entry rescues by winching entrants
- Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants

3. Duties of Entry Supervisors. The employer shall ensure that each entry supervisor:

- Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure
- Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin
- Terminates the entry and cancels the permit as required
- Verifies that rescue services are available and that the means for summoning them are operable
- Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations
- Determines whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

4. The completed entry requirement permit must be provided to EH&S for review and approval. A new permit is required and shall be issued for each eight hour shift. Any modifications to the permit must be reviewed and approved by EH&S.

NOTE: UNDER NO CIRCUMSTANCES IS THE ATTENDANT TO ENTER THE CONFINED SPACE UNLESS THEY ARE EQUIPPED FOR EMERGENCY RESCUE AND THERE IS A QUALIFIED PERSON TO TAKE THEIR PLACE AS ATTENDANT.

V. Post-Entry Procedures

1. The entrants shall remove all equipment and materials from the space, return the space to its planned operating condition, and secure the space.
2. The attendant shall account for all entrants and return all paperwork to the entry supervisor.
3. The entry supervisor shall ensure that all appropriate steps have been taken, notify EH&S of the completion of the operation, and return the permit to them.

VI. Rescue and Emergency Procedures

1. If an emergency arises, notify New Paltz Police at 257-2222 of the nature and location of the emergency. Also contact the Confined Space Rescue Team on contracted service if required by permit entry conditions.

VII. Training

1. For a person to be qualified in confined space entry work, they must participate in the confined space entry training. Training will include:

- Types of confined space hazards
- Components of the written Confined Space Operations program
- Entry permit system and the hot work permit
- Guarding of the entrance opening
- Atmospheric testing equipment including its use, calibration, and maintenance
- Atmospheric testing protocol and interpretation of results
- Methods for the control or elimination of any atmospheric hazards, including inserting, draining and rinsing, purging and cleaning, and continuous forced air ventilation
- Procedures the employees must follow if they detect a hazard
- Evaluation process to be used for reentry if hazards are detected
- Use of entry equipment such as ladders, communication devices, etc.
- Personal protective equipment, including full body harness, respiratory protection, chemical protective clothing and eye and face protection
- Personnel and their responsibilities, including the qualified entrant, attendant, entry supervisor and rescue team.

VIII. Outside Contractors

1. When contractors are involved in permit confined space entry work at the SUNY New Paltz, the hiring department's confined space qualified supervisor shall:
 - Inform the contractor that the work place contains permit required spaces and entry is allowed only through compliance with their companies "Permit-Required Confined Space Program".
 - Inform the contractor of the hazards of the space from which the contractor develops precautions or procedures to abate or minimize the hazard.
 - Coordinate entry in accordance with this procedure.
 - Debrief the contractor at the conclusion of entry operations.



SUNY New Paltz Confined Space List

<u>BLDG</u>	<u>BUILDING NAME</u>	<u>CONFINED SPACE</u>	<u>PERMIT REQUIRED</u>	<u>Known or Possible Hazards</u>
<u>01</u>	Old Main	Steam converter	Yes	Heat , atmosphere, electric
		DHW converter	Yes	Heat , atmosphere, electric
		Transformer pit	Yes	Atmosphere, electric
<u>02</u>	VandenBerg Learning Center	Steam converter	Yes	Heat , atmosphere, electric
<u>04</u>	Former Library	Steam converter	Yes	Heat , atmosphere, electric
		DHW converter	Yes	Heat , atmosphere, electric
<u>05</u>	Elting Gym	Steam converter	Yes	Heat , atmosphere, electric
		DHW holding tank	Yes	Heat , atmosphere, electric
		Two back wash tanks for pool	Yes	Chemical, atmosphere, electric
<u>07</u>	College Hall	Steam converter (none)	Yes	Heat , atmosphere, electric
<u>08</u>	Bouton Hall	Medium temp DHW Converter	Yes	Heat , atmosphere, electric

<u>BLDG</u>	<u>BUILDING NAME</u>	<u>CONFINED SPACE</u>	<u>PERMIT REQUIRED</u>	<u>Known or Possible Hazards</u>
26	Parker Theatre	Steam converter	Yes	Heat , atmosphere, electric
29	Service Building	DHW Heater	Yes	Heat , atmosphere, electric
30	Central Heat Plant	3 Generators	Yes	Heat , atmosphere, dust
		1 expansion tank	Yes	Heat , atmosphere,
		1 make up tank	Yes	Heat , atmosphere,
		2 fuel tanks	Yes	Chemical, atmosphere
		One 15,000 gal. Day Tank	Yes	Chemical, atmosphere
		Blow down Water holding tank	Yes	Chemical , atmosphere
		1000 gallon air make up tank	Yes	Chemical atmosphere
31	Smiley Arts Bldg	Steam converter	Yes	Heat , atmosphere,
		DHW converter	Yes	Heat , atmosphere,
32	Hasbrouck Dining	Steam converter	Yes	Heat , atmosphere,
33	Deyo Hall	DHW heater	Yes	Heat , atmosphere,
34	DuBois Hall	DHW heater	Yes	Heat , atmosphere,
35	Crispell Hall	DHW heater	Yes	Heat , atmosphere,
36	LeFevre Hall	DHW heater	Yes	Heat , atmosphere,
37	Bevier Hall	DHW heater	Yes	Heat , atmosphere,
38	Student Union	DHW tank	Yes	Heat , atmosphere,
	Campus Wide	Power & signal manholes	Yes	atmosphere, electric
	Campus Wide	High Temp manholes	Yes	Heat , atmosphere
	Campus Wide	Sewer manholes , lift station	Yes	Chemical, atmosphere