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**SUNY CORTLAND  
ENVIRONMENTAL HEALTH  
AND SAFETY OFFICE**

***CONFINED SPACE PROGRAM***

*PROGRAMS, POLICIES, AND PROCEDURES*

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# Confined Space Program

## 1. Introduction

This document is SUNY Cortland's Confined Space Program. It outlines requirements, guidelines and safe work practices for confined space entry and program administration. Employees and contractors are expected to observe all requirements pertaining to confined spaces whenever they are applicable. Information related to this program and its implementation will be made available to employees, their authorized representatives, and contractors.

Compliance with the requirements and stipulations of this program will be verified by the Environmental Health and Safety (EH&S) Office during routine inspections and annual program reviews. Annual program reviews will include assessing this program's effectiveness. If you have questions or require assistance with implementing this program, please contact the EH&S Office at [envirohlth@cortland.edu](mailto:envirohlth@cortland.edu) or at 607-753-2508 or extension 2508.

## 2. References

- Occupational Health and Safety Administration, "Permit-required Confined Spaces" (29 CFR 1910.146)
- SUNY Cortland's Hazard Communication Program
- SUNY Cortland's Hot Work Program
- SUNY Cortland's Lockout/Tagout Program
- SUNY Cortland's Personal Protective Equipment Program

## 3. Definitions

**Attendant** – The person stationed outside of a confined space that: 1) monitors authorized entrants; and 2) observes and enforces all requirements specified in confined space permits.

**Authorized Entrant** – The person authorized under the stipulations of the program to enter a confined space.

**Buddy System** – A protocol wherein a task is to be conducted by 2 or more individuals.

**Confined Space** – A space that meets all of the following conditions: 1) is large enough and configured so that an entrant can bodily enter and perform assigned work; 2) has limited means of entry or exit (e.g., tanks, storage bins, vaults, pits, chambers); and 3) is not designed for continuous occupancy.

**Entry Supervisor** – The person responsible for determining if acceptable entry procedures have been implemented for "permit-required confined spaces". This responsibility includes authorizing entry, overseeing entry operations, and terminating entry.

**Entry Team** – A trio of individuals on-site during a permit required confined space entry. The team consists of the authorized entrant, attendant and the entry supervisor.

**Hazardous Atmosphere** – An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, or acute illness from one or more of the following causes:

1. Flammable gas, vapor, or mist in excess of 10 percent of its lower explosion limit (LEL);
2. Airborne combustible dust at a concentration that meets or exceeds its LEL (this concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less);
3. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
4. Atmospheric concentration of any substance which could result in employee exposure in excess of the Permissible Exposure Limit (see 29 CFR 1910 Subparts G and Z); or
5. Any other atmospheric condition that is immediately dangerous to life or health.

**Hot Work** – Work capable of providing an ignition source (e.g., welding, cutting, burning, and heating)

**Lockout/Tagout** – The placement of a lock and tag on an energy isolation device to ensure zero energy state.

**Permit-Required Confined Space** – A space that is potentially hazardous. Permit- required confined spaces have the following characteristics:

1. Contain or have a potential to contain a hazardous atmosphere;
2. Contain a material that has the potential for engulfing an entrant;
3. Internally configured 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. Contain any other recognized or serious safety hazard (e.g., fall hazards; unguarded machinery; extreme heat or cold; steam pipes or chemical lines; electrical hazards; high dust levels).

**Physical Hazards** – Physical hazards include moving mechanical equipment, energized electrical conductors, heat, cold, in-flowing fluids, and finely divided solids.

#### **4. Responsibilities**

**Authorized Entrants** – Authorized entrants are responsible for observing all safe work practices involving tasks and entry into confined spaces. Responsibilities involving entrants are further outlined in Section 8.

**Attendants** – Attendants are responsible for:

1. Keeping track of entrants to confined spaces;
2. Monitoring confined space safety; and
3. Initiating emergency action plans if problems arise.

Responsibilities involving attendants are further outlined in Section 8.

**Contractors** – Contractors are responsible for complying with requirements outlined in the OSHA Permit-required Confined Spaces standard and implementing safe work practices while

in permit-required confined spaces. Responsibilities involving contractors are further outlined in Section 10.

**Department Supervisors** – Department supervisors who are affected by this program are responsible for enforcing the requirements affecting their employees.

**EH&S Office** – The EH&S Office is responsible for:

1. Reviewing this program annually and updating its contents whenever it is required;
2. Evaluating this program's effectiveness;
3. Evaluating confined spaces;
4. Conducting annual reviews of confined space permits;
5. Providing confined space training to employees;
6. Maintaining the list of trained and campus-specified entry supervisors, attendants, and authorized entrants;
7. Providing information related to this program to contractors;
8. Informing contractors of expectations for working safely in permit-required confined spaces; and
9. Enforcing requirements outlined in the program.

**Emergency Response Personnel** – Emergency response personnel will assist with or provide rescue services for incidents involving confined spaces.

**Employees** – Employees must not enter confined spaces unless they are approved and have received confined space training.

**Entry Supervisors** – Entry supervisors are responsible for:

1. Verifying that safe conditions exist for confined space entry;
2. Verifying that rescue services are available and can be contacted; and
3. Enforcing safe practices during confined space entry.

Responsibilities involving entry supervisors are further outlined in Section 8.

**Facilities Planning, Design and Construction Office** – Job coordinators in the Facilities Planning, Design and Construction Office are responsible for working with the EH&S Office to ensure that:

1. Contractors are advised of expectations for working in confined spaces;
2. Contractors are provided with information on confined spaces;
3. Confined space entry operations for multiple contractors are coordinated to ensure safety; and
4. Debriefing sessions are conducted at the end of jobs involving entry into confined spaces.

**University Police Department** – The University Police Department will assist with responding to confined space emergencies. Responsibilities will include traffic control and summoning rescue services, if necessary.

## 5. Program Requirements and Guidelines

Employees must not enter confined spaces without appropriate approvals and training. Locations and/or identities of non-permit and permit confined spaces are summarized in Appendix C. Non-permit confined spaces are posted “Danger Confined Space (non-permit)”. Permit-required confined spaces are posted “Danger Confined Space Entry by Permit Only”. In some cases confined space postings may contain additional identifier information such as “Pit” or “Lower level”.

If an employee suspects that a non-posted space is potentially hazardous, the EH&S Office must be contacted prior to entry. The EH&S Office will subsequently perform a hazard assessment and specify conditions for safe entry. Requirements for non-permit confined spaces are outlined Section 6 of this program. Requirements for permit-required confined spaces are outlined in Section 8.

## 6. Non-Permit Confined Spaces

Non-permit confined spaces include areas such as above suspended ceilings, under stair spaces, some mezzanine type spaces, lower levels with limited means of egress, crawl spaces and chambers associated with HVAC units, cooling towers and emergency generators. Locations and/or identities of non-permit confined spaces are summarized in Appendix C. Non-permit confined spaces have been evaluated by the EH&S Office and are posted “Danger Confined Space (non-permit)”. If it is suspected that a non-posted space is potentially hazardous, the EH&S Office should be contacted prior to entry to perform a hazard assessment. Observations that would trigger suspicion of a potential hazard in a non-permit confined space would be:

- Any type of odor (chemical, fuel, exhaust, sewer, foul, etc.)
- Presence of smoke, dust or mist;
- Malfunctioning equipment (electrical, mechanical);
- Extreme temperature;
- Poor lighting;
- Failure of a foundation wall, ceiling or load bearing support;
- Presence of excessive water, sewage or other fluid on the ground of the confined space.

It is important to note that conditions within an existing non-permit confined space could escalate to a very hazardous state and the above listed warning signs should not be ignored.

All HVAC systems are to be shut down and locked-out where chamber entry is required. Shut down shall occur prior to entry.

Authorized entrants must not work alone in non-permit confined spaces. The “buddy system” must be employed when entering a non-permit confined space. At least one person should remain outside of a non-permit confined space while work is being performed within the space. If it is not possible to station a person outside of a non-permit confined space because two or more authorized entrants are required within the space, then a check-in system with FOS should be implemented. A check-in system requires that authorized entrants within a non-permit confined space call a supervisor, a fellow employee, or another responsible person at

regular intervals not to exceed one (1) hour. The contact person should know the specific location of the confined space and relevant conditions.

While most of the requirements for permit-required confined spaces (see Section 8) do not pertain to non-permit confined spaces, employees must implement safe work practices commensurate with existing hazards (e.g., fall protection, hot work permit, lockout/tagout, personal protective equipment) when working in non-permit spaces.

## **7. Permit-Required Confined Spaces**

A permit-required confined space is a confined space that needs to have only one of the following additional elements or characteristics:

1. Contain or have the potential to contain hazardous atmospheres;
2. Contain a material that has the potential to engulf an entrant;
3. Have 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-sectional area; or
4. Contain any other recognized serious safety or health hazards (e.g., fall hazards, unguarded machinery, steam pipes or chemical lines).

Permit-required confined spaces include sewers, manholes, boilers, pits and other areas possessing atmospheric, chemical and physical hazards. Except for manholes and sewers, most permit-required confined spaces are posted: "Danger Confined Space Entry by Permit Only". Since certain permit-required confined spaces are not posted, employees should refer to Appendix C determine if a space is permit-required. If an employee suspects that a non-posted space should be permit-required, the space should not be entered and the EH&S Office should be contacted to conduct a hazard assessment. After the hazard assessment is performed, the EH&S Office will indicate whether or not the space is permit-required.

Permit-required confined spaces listed in Appendix C have been evaluated by the EH&S Office. In certain circumstances a permit-required confined space might be reclassified to non-permit if it is determined that a space is no longer meets the permit-required criteria. This determination will be made by the EH&S Office.

Protocol and requirements for permit-required confined spaces are outlined in Section 8.

## **8. Requirements, Guidelines and Information for Permit-Required Confined Spaces**

### **8.1 Entry Team**

An entry team is required prior to any work conducted in a permit-required confined space. This team is to consist of an entry supervisor, attendant and authorized entrant. Each of these team members have a specific role and responsibilities during the entry process as outlined in section 4. In addition, emergency and rescue services must be contacted in advance of the confined space entry in the event a rescue is needed.

## 8.2 Hazard Identification and Control

Hazards and methods for controlling hazards associated with permit-required confined spaces should be recorded in SUNY Cortland's Confined Space Entry Permit. This permit is included in Appendix A. At a minimum, the following hazards should be assessed and subsequently eliminated or controlled prior to entering a permit-required confined space:

**Atmospheric Hazards** – Oxygen concentration, combustible gases and vapors, carbon monoxide, and toxic gases and vapors should be determined. If hazardous concentrations are present, they must be eliminated or controlled by using engineering methods such as forced air ventilation. It is important to mention that forced air ventilation will generally always be used in spaces such as manholes (Note: atmospheric hazards and requirements for atmospheric testing are discussed further in this section). In instances where combustible gases and vapors are present, sources of ignition should be eliminated and explosion-proof equipment might be required.

**Chemical Exposures** – Potential and actual chemical exposures include:

1. Substances within containers and pipes;
2. Substances that will be used within the space;
3. Chemical residue; and spilled material.

If hazardous exposures are present, they must be eliminated or controlled by using engineering methods, administrative methods or personal protective equipment.

**Dust and Particulates** – Excessive dust can promote explosions when an ignition source exists. Particulates such as asbestos fibers, silica and other particulates can present significant respiratory hazards. In spaces where excessive dusts or particulates are present, sources of ignition must be eliminated. A respirator might also be required for airborne particulates. The EH&S Office should be contacted to assess spaces where excessive dust and particulates are present.

**Extreme Heat or Cold** – Hazards associated with extreme heat or cold can be caused by weather conditions or physical hazards within a space such as steam pipes. These hazards must be eliminated or controlled by using engineering methods, administrative methods or personal protective equipment.

**Energy** – Sources of energy include: electrical, mechanical, hydraulic, pneumatic, chemical and thermal. When working in spaces where energy sources are present, employees must observe safe work practices as outlined in SUNY Cortland's Lockout/Tagout Program.

**Hot Work** – A Hot Work Permit is required for all hot work. Employees should contact the EH&S Office to obtain a Hot Work Permit. This permit must be displayed with the confined space permit.

**Lighting** – Employees should make sure that sufficient lighting is available when performing work within spaces. In instances where combustible gases and vapors are present, explosion-proof lighting must be used.

**Mechanical Hazards** – To eliminate hazards associated with rotating or moving parts, machinery should be guarded, or locked and tagged out.



**Slip, Trip, and Fall Hazards** – When entrance covers are removed, the opening must be guarded by a railing or barrier that will prevent an accidental fall through the opening and that will protect employees in the space from falling objects. It is also important that employees use retrieval equipment and harnesses when entering manholes. Employees should also be mindful of addressing slip, trip and fall hazards within a space.

**Traffic Hazards** – Confined spaces, such as manholes, should be protected from vehicular and pedestrian traffic.

### 8.3 Atmospheric Hazards and Factors Influencing Atmospheric Testing

Air consists of 78% nitrogen, 21% oxygen, and the remaining balance of other gases (i.e., argon, neon, krypton, carbon dioxide, and hydrogen). For safe entry into confined spaces, the following minimum atmospheric conditions are required:

- Oxygen – Above 19.5% and below 23.5% by volume;
- Explosive Atmospheres - Flammable gases and vapors below 10% of the lower explosive limit (LEL);
- Carbon monoxide – Less than 35 parts per million;
- Hydrogen Sulfide – Less than 10 parts per million; and
- Toxic gases and vapors – Acceptable concentrations are substance-specific.

Asphyxiation is the number one cause of fatalities in confined space fatalities. Oxygen concentrations can be influenced by a number of factors including:

1. Combustion of flammable gases;
2. Displacement of oxygen by other gases;
3. Fermentation;
4. Rust formation; and
5. The number of persons working within a confined space.

Explosions can result from the presence of flammable vapors or dusts in combination with an oxygen content sufficient to support the explosion and an ignition source (spark, flame, electricity, static, heat). The risk of explosion involving flammable vapors can usually be predicted by measuring the explosion limits using a test meter. Explosions resulting from dust laden atmospheres are unpredictable and cannot be predicted using test meters.

Toxic atmospheres can be created by both natural processes and work-related activities. Tasks conducted in confined spaces involving fossil fuel powered motors, spray painting, use of solvents, and welding can all result in toxic atmospheres in addition to the potential for explosion.

The elimination or control of most confined space atmospheric hazards can be achieved with proper ventilation. It is also extremely important to use intrinsically safe tools when working in confined spaces that might have the potential to contain explosive atmospheres.

## 8.4 Atmospheric Testing

A calibrated direct-reading monitoring device must be used for atmospheric monitoring, and only employees who are trained in the use of a specific monitoring device are permitted to monitor for atmospheric substances. Monitoring devices used for atmospheric testing must be carefully evaluated before and after each use.

Gases and vapors that are heavier than air will accumulate in the lower portion of a confined space; therefore, it is important that atmospheric testing be conducted near the bottom of confined spaces.

At a minimum, permit-required confined spaces must be evaluated for substances prior to, and during entry, in the following order:

1. Oxygen (O<sub>2</sub>);
2. Explosive Atmosphere (% LEL);
3. Carbon Monoxide (CO); and
4. Toxic gases and vapors (generally hydrogen sulfide)

Additionally, based on conditions within specific spaces, it might also be necessary to ascertain concentrations of other substances. The EH&S Office should be contacted for assistance with identifying other suspected atmospheric hazards. Since it is possible for contaminants to stratify at different levels, the top, middle and bottom of a space must be evaluated. More specifically, each space should be evaluated in four-foot increments, allowing sufficient time for the monitoring device's pump to introduce samples to the instrument.

Concentrations of oxygen, combustible gases and vapors, carbon monoxide, toxic gases and vapors, and other substances, if necessary, should be recorded on the confined space permit (see Appendix A) and signed by the person conducting the atmospheric testing (generally the entry supervisor). Entrants into a space, including entrants' authorized representatives, should be given an opportunity to observe the results of atmospheric testing conducted before and during entry. Other information related to atmospheric testing recorded on the confined space permit includes: the make, model and serial number of the instrument; and the date of the last factory calibration.

Forced air ventilation will generally always be used in spaces where atmospheric hazards exist or are likely. In instances where a hazardous atmosphere is detected, forced air ventilation will be used to eliminate the hazardous atmosphere. Whenever it is possible, manhole covers will be removed, or other methods will be used to promote better ventilation.

Once a safe atmosphere conditions are achieved, the space may be entered (Note: all controls and requirements specified on the confined space permit must be addressed prior to entry). During entry, the space will be continually monitored with a direct-reading instrument. To supplement the atmospheric testing that is conducted by using a direct-reading instrument, permit-required confined spaces entrants might be required to wear personal monitors. These monitors will be calibrated only by employees who have received

training. If a hazardous atmosphere is detected during entry by a direct-reading instrument or a personal monitor, the following actions should be taken:

- Entrants must leave the space;
- The space must be evaluated to determine how the hazardous atmosphere developed; and
- Measures must be implemented to protect entrants from the hazardous atmosphere before re-entry is permitted.

In such instances, the Confined Space Permit will be cancelled and a new Confined Space Permit will be issued.

## 8.5 Written Permit System

An example of SUNY Cortland's confined space entry permit is highlighted in Appendix A. A usable version of this permit must be obtained from the EH&S office.

The permit contains the following elements:

- Identification of the space to be entered;
- Purpose of entry;
- Date and authorized duration of entry;
- Description of hazards associated with the space;
- Measures taken to isolate the space and manage the hazards;
- Acceptable entry conditions;
- Results of atmospheric testing, including the name of the person conducting the tests and when tests were performed;
- Make, model and serial number of the test instrument and the date of the last factory calibration;
- Communication procedures;
- Special equipment required;
- Identity of entry supervisor and entry supervisor's signature;
- Identity of authorized entrants and attendant;
- Additional required documents (e.g., hot work permit);
- Rescue and emergency services, and contact information;
- Notes to record other relevant information pertaining to the confined space; and
- Annual review of permit

Completed permits must be reviewed by the entry supervisor, the attendant, and the entrants prior to entry and must be posted near the entrance to the confined space. Additional documents, such as hot work permits, must be kept with the completed permit. Completed permits are valid for one continuous entry only, and the permit may not exceed the time required to complete the task or job.

Confined space permits are to be cancelled by the entry supervisor under any of the following conditions:

- Upon completion of work;
- A condition that is not allowed under the permit arises in or near the permit space;
- Emergency evacuations;
- Discontinuity of work (e.g., lunch break, leaving the job site for other duties); or
- Shift changes.

The time and the reason why the permit is cancelled should be specified on the permit, and the cancelled permit must be signed by the entry supervisor.

The original of the cancelled permits must be received at the EH&S Office within 72 hours of the cancellation and will be retained for at least 2 years. All cancelled permits will be reviewed at least once per year by the EH&S Office. Problems, inconsistencies and unsafe trends related to cancelled permits will be identified and noted on specific permits, and appropriate corrective action will be implemented. These reviews will also be used to refine and improve SUNY Cortland's Confined Space Program.

## 8.6 Specialized Equipment

Specialized equipment includes instruments for air monitoring, ventilation equipment, emergency rescue equipment, personal protective equipment, fall protection gear, explosion-proof lighting, communications equipment, pedestrian barriers, manhole shields, traffic control devices, portable fire extinguishers, and first aid kits. All specialized equipment must be specified on the confined space entry permit. Employees must not use equipment for which they have not been trained.

Equipment must be maintained in a safe manner and inspected for integrity before and after use. It is especially important to carefully inspect rescue equipment, fall protection gear, and personal protective equipment. Items that are damaged or defective should be removed from service and replaced.

## 8.7 Authorized Entrants' Responsibilities

Confined space training and other relevant safety training are required before employees are authorized to enter confined spaces. A list of authorized entrants can be obtained from the EH&S Office or department supervisors who are affected by this program. Training requirements for authorized entrants are discussed further in Section 9.

Entrants are required to know the hazards that might be encountered during entry, including mode, signs or symptoms, and consequences of exposures. Entrants are also required to use equipment properly. While entrants are within a space, they are to communicate with the attendant in order for the attendant to monitor entry conditions and alert the entrants of the need to evacuate the space. Entrants should also alert the attendant when a sign or symptom of exposure to a dangerous situation is perceived and when a prohibited condition is detected.

Entrants are to evacuate a space immediately under any of the following conditions:

- An evacuation order is issued by the attendant or the entry supervisor;

- Entrants recognize any warning signs or symptoms of exposure to a dangerous situation; or
- Entrants detect a prohibited condition.

## 8.8 Attendants' Responsibilities

Confined space training and other relevant safety training are required before employees are granted the authority to perform duties as attendants. If attendants are appropriately trained, they may also perform duties of entry supervisors. A list of attendants can be obtained from the EH&S Office or department supervisors who are affected by this program. Additional training requirements for attendants are discussed further in Section 9.

Prior to entry, the attendant must:

1. Assess and coordinate eliminating or controlling hazards that are within a space; and
2. Conduct atmospheric testing.

Hazards that attendants should be aware of include:

- Electrical hazards;
- Flammable atmospheres;
- Unapproved materials and processes in the space;
- Tangling of hoses, cords and lifelines; and
- Hazardous liquids or gases that might leak into the space.

The attendant should record all relevant information on the confined space permit. This information includes the results of atmospheric testing, protocol that is to be observed during entry, required equipment, and emergency contact information.

Before endorsing entry into a space, the entry supervisor (or attendant) must review the confined space permit to verify:

- Atmospheric testing has been conducted;
- Entry protocol and equipment that are specified on the permit are in place; and
- Emergency contact information is listed.

The entry supervisor (or attendant) must also verify that rescue services are available and the means for summoning such services are operable. Once this information has been verified, the entry supervisor (or attendant) will sign the confined space permit. The completed and signed permit must then be reviewed by the entry supervisor, the attendant, and entrants prior to entry. After the permit is reviewed, it must be posted near the entrance to the space. Approval can then be granted to enter the space.

During entry, attendants must know the hazards that might be encountered, including:

1. Mode, signs or symptoms, and consequences of exposure; and
2. Behavioral effects of hazardous exposures.

To ensure that the atmosphere within a space remains safe, the space must be continually monitored with a direct-reading instrument. Attendants must also keep track of the identity and number of entrants entering and exiting the space.

Attendants are to remain outside of and monitor the space until relief is provided by another attendant. While the space is to be constantly monitored by the attendant during entry, attendants may perform other tasks that do not interfere with their primary duties. For example, an attendant can pass tools and equipment into and out of the space.

Attendants must maintain effective and continuous contact with entrants and alert entrants of the need to evacuate a space. An order to evacuate a space should be issued under any of the following circumstances:

1. Unsafe, hazardous or prohibited conditions are detected;
2. Behavioral effects of hazard exposure are detected;
3. A situation outside of the space is detected that can endanger entrants; and
4. The attendants' ability to effectively and safely perform duties is impaired or can no longer be performed.

When unauthorized persons approach or enter a space during entry, attendants must take the following actions:

1. Warn unauthorized entrants that they must stay away from the space;
2. Advise unauthorized persons that they must exit a space; and
3. Inform entrants and the entry supervisor if unauthorized persons enter the space.

For emergencies, attendants will:

1. Summon rescue or other emergency services as noted on the confined space permit if it is determined that entrants need assistance with escaping from the space; and
2. Perform non-entry rescue by using retrieval equipment, if necessary.

Protocol for emergencies is further discussed in this section.

## 8.9 Entry Supervisors' Responsibilities

Confined space training and other relevant safety training are required before employees are granted the authority to perform duties pertaining to entry supervisors. If entry supervisors are appropriately trained, they may also perform duties of attendants or be an authorized entrant. A list of entry supervisors can be obtained from the EH&S Office or department supervisors who are affected by this program. Moreover, training requirements for entry supervisors are discussed further in Section 9.

Before endorsing entry into a space, the entry supervisor (or attendant) must review the confined space permit to verify:

- That atmospheric testing has been conducted;
- Entry protocol and equipment that are specified on the permit are in place; and
- Emergency contact information is listed.

The entry supervisor (or attendant) must also verify that rescue services are available and the means for summoning such services are operable. Once this information has been verified, the entry supervisor (or attendant) will sign the confined space permit. The completed and signed permit must then be reviewed by the entry supervisor, the attendant,

and entrants prior to entry. After the permit is reviewed, it must be posted near the entrance to the space. Approval can then be granted to enter the space.

During entry, entry supervisors are required to know the hazards that might be encountered, including mode, signs or symptoms, and consequences of exposure. Entry supervisors are also required to ensure that entry protocol remains consistent with the stipulations specified in the confined space permit and that acceptable entry conditions are maintained. This responsibility includes removing unauthorized individuals who enter or attempt to enter a space. Entry will be terminated and the permit will be cancelled when:

- Entry operations are completed;
- An unsafe condition arises;
- Work is discontinued (e.g., lunch breaks, leaving the job site for other duties);
- A shift changes; or
- Emergency evacuation occurs.

Before cancelling a permit, entry supervisors must verify that entrants are out of a space and appropriate measures are taken to prevent unauthorized entry.

#### 8.10 Rescue and Emergency Services

Rescue that involves entry into a permit-required confined space will be handled by the City of Cortland Fire Department. Contact numbers for rescue and emergency service will be specified on confined space permits.

The EH&S Office will periodically evaluate rescue and emergency services to ascertain proficiency in providing rescue. At a minimum, the promptness of response and the extent to which a rescue service is skilled and well-equipped will be evaluated. Once a rescue service is selected, the service will:

1. Be given a list of permit-required confined spaces;
2. Have access to permit-required confined spaces; and
3. Be apprised of hazards that might be present in permit-required confined spaces.

Non-entry rescue will be performed by entry supervisors, attendants or others trained in non-entry rescue. To facilitate non-entry rescue, retrieval systems will always be specified for permit-required confined spaces unless:

1. The retrieval equipment will increase the overall risk of entry;
2. The equipment will not contribute to the a rescue of an entrant; or
3. The space is less than 5 feet deep. The EH&S Office should be contacted before a decision is made not to use retrieval equipment.

When retrieval systems are used, each authorized entrant must have a full body harness with a retrieval line attached at the center of the entrant's back near shoulder level. The other end of the retrieval line must be attached to a mechanical device or fixed point outside of the space appropriately positioned so that rescue can proceed when a hazardous or life-threatening situation arises.

## **9. Training Requirements**

Employees and contractors who are affected by confined space entry will be informed of requirements and expectations related to this program during training or informational sessions. More intensive training will be provided to authorized entrants, attendants and entry supervisors. These employees will be trained to perform the duties as outlined in Sections 6 and 7. Other information that will be discussed during training includes:

1. Slip, trip and fall hazards;
2. Electrical hazards;
3. Personal protective equipment;
4. Instrumentation;
5. Ventilation equipment;
6. Lockout/tagout protocol; and
7. Communications procedures.

Training sessions will establish proficiency in the duties that are to be executed in this program. This training will be provided:

1. Before employees are assigned confined space duties;
2. Before there are changes in assigned duties;
3. Whenever there is a change in permit-required confined space operations that present hazards for which employees have not been previously trained; and
4. Whenever it is apparent there are deviations from the stipulations of this program or when inadequacies in employees' knowledge of this program are demonstrated.

After each training session, the following will be documented:

1. Trainer's name and signature;
2. Employees' names and signatures; and
3. The date(s) of training.

## **10. Contractors**

Contractors are expected to observe all requirements and safe work practices as outlined in the OSHA Permit-Required Confined Spaces Safety Standard (29 CFR 1910.146) when accessing confined spaces on campus. Prior to a contractor entering a permit-required confined space, the EH&S Office, the Facilities Planning, Design and Construction Office, or other campus-designated personnel will:

1. Determine whether or not the contractor has an OSHA compliant Confined Space Program.
2. Specify the location of the space to be entered and indicate entry is allowed only by meeting the stipulations of the OSHA Permit-required Confined Spaces safety standard.
3. Indicate why the space is permit-required and identify hazards and experiences associated with the space.
4. Apprise the contractor of precautions and procedures that the campus implements for protection of employees in or near the space.



5. Coordinate entry operations when campus employees and the contractor will be working in or near the space. This includes developing and implementing procedures to coordinate entry operations in order to prevent endangering campus and contractor employees.
6. Review and complete the SUNY Cortland Confined Space Contractor Agreement form. The form will be signed by: 1) EH&S Office, the Facilities Planning, Design and Construction Office, or other campus-designated personnel; and 2) a contractor employee. The SUNY Cortland Confined Space Contractor Agreement form is provided in Appendix B.

At the conclusion of entry operations, a campus representative will meet with a contractor employee for a debriefing session to discuss potential or actual hazards encountered during entry. Information discussed during the debriefing session will be recorded on the SUNY Cortland Confined Space Contractor Agreement form.

## **Appendices**

Appendix A – SUNY Cortland Confined Space Entry Permit

Appendix B – Permit-Required Confined Space Contractor Agreement

Appendix C – Inventory of Confined Spaces

## Appendix A – SUNY Cortland Confined Space Entry Permit

# Appendix B - Permit-Required Confined Space Contractor Agreement

## Appendix C – Inventory of Confined Spaces