



SIMMONS

**300 The Fenway
Boston, MA 02115**

CONFINED SPACE PROGRAM

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CONFINED SPACE PROGRAM REVIEW SUMMARY

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1 INTRODUCTION

Simmons College (Simmons) recognizes that entry into confined spaces can kill or injure employees. The following work practices have been implemented to minimize the potential dangers associated with entry into permit-required confined spaces. This program identifies specific responsibilities of different parties and presents the criteria required for safe entry into permit-required confined spaces. Appendix A provides the definitions associated with this program. **Simmons' students are not permitted to enter confined spaces.**

This document outlines how Simmons is complying with OSHA's Permit-Required Confined Space Standard, 29 Code of Federal Regulations 1910.146. This program will be reviewed by the Director of Environmental Health and Safety (EH&S) and a representative from Buildings and Grounds Department (B&G) as needed, at least annually, or if one of the following situations warrants it:

- Employee or contractor concern.
- Unauthorized entries.
- A near miss or injury while entering the spaces.
- A change in the configuration of the space.
- The introduction of a new space.
- The identification of a condition not covered by the permit.

It will be revised as necessary. An official copy of this Confined Space Program is located in the B&G Office at 300 The Fenway in Boston, Massachusetts 02115.

Below are some examples of confined spaces at Simmons:

- Sewer Manholes
- Storm Water Manholes
- Air Handling Units
- Elevator Pits
- Crawl Spaces
- Utility Tunnels

This program shall be used in conjunction with other Simmons EH&S programs and practices. Associated EH&S practices include but are not limited to personal protective equipment, the handling of hazardous materials, the isolation of energy sources, and special work permits.

2 RESPONSIBILITIES

2.1 Environmental Health and Safety

The Director of EH&S or the Building Engineer & Environmental Safety Officer is responsible for the following activities. A contractor may be hired to assist with these responsibilities. The B&G Department is responsible for maintaining entry permits associated with this program.

- Investigating all known and suspected confined spaces;
- Completing a Confined Space Hazard Evaluation Survey form for all confined spaces (refer to Appendix B); NOTE:

Completed Confined Space Hazard Evaluation Survey forms will be maintained in the B&G' Office.

- Designating confined spaces as permit-required confined spaces or non-permit confined spaces;
- Implementing the measures necessary to prevent unauthorized entry into a permit-required confined space by posting warning signs or other equally effective means;
- Determining if a permit-required confined space can be reclassified as a non-permit confined space;
- Developing, implementing and annually reviewing the Confined Space Program;
- Initially reviewing and approving all departmental policies for specific permit-required confined spaces prior to implementation;
- Providing safety expertise and regulatory guidance.
- Providing technical expertise and assistance in air monitoring.

2.2 Simmons Employees

Simmons employees must inform any contractors whom they hire to enter permit spaces about:

- The permit spaces and permit space entry requirements;
- Any identified hazards;
- The Simmons' employee's experience with the space, such as knowledge of hazardous conditions; and
- Precautions or procedures to be followed when in or near permit spaces.

2.3 Contractors

The contractors shall be responsible for the following:

- Utilizing any available information from Simmons regarding the permit-required confined space hazards and entry operations prior to entry;
- Informing Simmons of the permit-required confined space program to be followed by the contractor during the aforementioned initial meeting;
- Completing a Confined Space Entry Program form, which is attached to this document; and
- Providing an entry supervisor when sole entry into a permit-required confined space consists of their employees.

When employees of more than one contractor are conducting entry operations, the affected employers must coordinate entry operations to ensure that their affected employees are appropriately protected from permit space hazards. The Simmons' employee hiring the contractors must give them any other pertinent information regarding hazards and operations in permit spaces and be debriefed at the conclusion of entry operations.

2.4 Authorized Entrant

An employee who is authorized by the employer to enter a permit required confined space. An authorized entrant must:

- Attend confined space training prior to assuming Authorized Entrant duties. Refer to Section 9 for details.
- Check the confined space inventory to determine the classifications, potential hazards, and entry requirements for that space prior to starting the work.
- Understand all the hazards associated with working in the identified space.
- Know of the signs and symptoms of exposures to the hazards associated with the space.
- Wear and utilize the proper safety equipment to include personal protective equipment (PPE) as required by the task.

- Maintain constant communication with the Attendant.
- Assure that appropriate methods of hazard control are practiced including but not limited to: Lockout/Tag Out, Hot Work, and Ventilation.
- Exit the confined space whenever:
 - An order to evacuate is given by the attendant or the entry supervisor.
 - The entrant recognizes any warning signs or symptoms of exposure to a dangerous situation.
 - The entrant detects a prohibited condition.
 - An evacuation alarm is activated.

2.5 Attendant

The individual stationed outside a required confined space who monitors the authorized entrants and who performs all attendants' duties assigned in the employer's permit space program.

- Attend confined space training prior to assuming Attendant duties. Refer to Section 9 for details.
- Determined from the confined space inventory database if the space is a permit required confined space.
- Know the hazards that may be faced during entry, including information on the mode, signs, or symptoms, and consequences of exposure.
- Know the behavioral effects of hazard exposure in authorized entrants.
- Track and communicate with authorized entrants at all times.
- Remain outside the permit space during operation until relieved by another attendant.
- Continually monitor hazards both inside and outside the space to determine if it is safe for authorized entrants to remain in the space.
- Test the atmosphere with a four gas meter and ensure that the required conditions are met, prior to entering the space.
- Keep unauthorized persons from entering the space.
- Re-test the space prior to allowing re-entry under the following circumstances:
 - The space is temporarily closed.
 - After breaks or any other times when the space has been unoccupied.
- Maintain communication with the entrants in the event problems arise.
- Order the entrant to exit immediately if a prohibited condition exists.
- Determine if entrant requires assistance to escape the permit space, and contact the Boston Fire Department for rescue operations by calling 911.

3 PROFILING CONFINED SPACES

To report a known or suspected confined space, contact B&G Office. To ensure that confined spaces are properly evaluated and designated as permit-required or non-permit required, the Director of EH&S or a contractor shall conduct a visual inspection of the area to determine if:

- The area is large enough and so configured that an employee can enter and perform assigned work;
- The area has limited or restricted means for entry or exit;
- The area is not designed for continuous employee occupancy;
- The space contains a material that has the potential for engulfing an entrant;
- The space 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; and
- The space contains any other recognized serious safety or health hazard including, but is not limited to, the following:
 - Airborne dust;
 - Grinding/mulching;
 - Agitators;
 - Other moving parts;
 - Steam;
 - Electrical hazards;
 - Falling/tripping hazards;
 - Rodents/snakes/spiders; or
 - Wind/weather;
 - The space contains or has the potential to contain a hazardous atmosphere.

Each confined space will be evaluated using the [OSHA Permit-Required Confined Space Decision Flow Chart](#) and the Confined Space Evaluation Form, which is provided in Appendix B, to determine whether a confined space is permit-required or not.

Upon completion of the aforementioned evaluation, the Director of EH&S, Building Engineer & Environmental Safety Officer, or contractor shall designate each confined space as a permit-required confined space or non-permit required confined space and thus document the status of each space on the confined space profile. All initial monitoring results shall be documented on the confined space profile and maintained by the B&G Department.

Refer to the Confined Space Evaluation table and the completed forms to determine which spaces are considered permit-required confined spaces. This information is available on the Confined Space folder on the EH&S Drive.

4 SIGNAGE

If a permit-required confined space is located on Simmons' property, the Director of EH&S or Building Engineer & Environmental Safety Officer shall inform employees of the existence of such a space by posting a sign. A sign reading "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" or using other similar language would satisfy the requirement for a sign. When posting of signs is not feasible (e.g., sewers, pits), as determined by Director of EH&S or Building Engineer & Environmental Safety Officer, permit-required confined spaces shall be identified by other equally effective means (e.g., training).

5 HAZARDS

The hazards associated with entry into a confined space vary in degree (from least severe to the most severe) as follows:

- A non-permit space which does not contain any serious safety hazard;
- A permit-required space in which all hazards are eliminated prior to any entry;
- A permit space wherein the only hazard is atmospheric, and for which continuous, forced-air ventilation alone is sufficient to control; and
- A permit space that contains or has the potential to contain, both atmospheric and non-atmospheric (physical) hazards.

The potential hazards associated with confined space include but are not limited to:

- Atmospheric hazards – Oxygen-deficient, flammable, explosive, concentrations above the OSHA permissible exposure limit or recommended exposure limit
- Potential energy – Electrical, hydraulic, pneumatic, mechanical, gravity, thermal energy
- Environment hazards – Slip, trip, and fall hazards, extreme temperatures, extreme pressures
- Configuration – Slopes, low overhead, drop offs
- External hazards – vehicle traffic, machinery, equipment, and processes

6 CONFINED SPACE PROCEDURES

6.1 Non-Permit Required Confined Space Entry Procedures

A non-permit required confined space, by definition, poses no hazard to an employee more serious than its restricted means of entry and exit. Therefore, provided that the work to be performed lacks any potential to create a prohibited or unacceptable condition, entry to a non-permit-required confined space may proceed as described.

Prior to entry:

1. Review the work to see if personal protective equipment is needed;
2. Establish traffic control barriers at the entry point, if applicable;
3. Eliminate any condition that would make removal of the confined space entry cover unsafe;
4. Once the entry cover is removed, promptly guard the entry point with a temporary barrier to prevent an accidental fall through the opening and protect employees working in the space from foreign objects entering the space;
5. Ensure a safe means of communication is available; and
6. Ensure appropriate lighting and/or equipment (e.g., ladders) for safe entry and exit by entrants is available.

NOTE: Activities involving chemical processes can result in a change in the atmosphere of a confined space. If these activities are to be performed within a confined space designated as a non-permit confined space, the Director of EH&S or the Building Engineer & Environmental Safety Officer shall be contacted.

6.2 Confined Space Permit

A confined space permit is the written or printed document provided by Simmons to allow and control entry into a permit required confined space. The completed permit shall be made available at the time of entry to all authorized entrants. Methods to meet the intent of the OSHA standard for entry permit must adhere to this Confined Space Program and the OSHA confined space regulation. Additional information will be posted at the confined space to provide warnings and instructions for the use of the confined space permit.

6.3 Permit-Required Confined Space Entry Procedures

The following are the required procedure when working in a permit-required confined space:

1. Identify the need to enter permit required confined space.
2. Complete a Confined Space Entry Permit. See Appendix C for the hyperlink to OSHA's recommended Confined Space Entry Permit.
3. Provide appropriate equipment.

4. Establish communication systems.
5. Authorized attendant shall remain outside the permit space.
6. Post completed Confined Space Permit at the site.
7. Identify the hazards on the Confined Space Permit and methods that are to be used to control the hazards. Communicate this information to entry personnel and contractor.
8. Identify appropriately trained entry attendant and personnel to enter the confined space.

6.4 Alternate Entry Procedures for Permit-Required Confined Spaces

Alternate entry procedures can only be used when the only hazard present in a confined space is an actual or potential atmospheric hazard that can be controlled through ventilation alone. In short, this means that a permit is not required before entry, rescue arrangements do not have to be made and no attendant is required. It is extremely important to follow the procedures below when using the alternate entry procedure:

- Demonstrate that the only hazard posed by the space is an actual or potential hazardous atmosphere, which means that any hazard involving high noise levels, lockout-tag out, drowning, excessive heat or cold, slips, trips, fall or and other hazards shall be eliminated;
- Demonstrate that continuous forced air ventilation alone is sufficient for safe entry;
- Develop monitoring and inspection data to support the above. If initial entry into the space is necessary to collect such data, the entrant shall follow the complete permit program; and
- Make available to each employee who enters the space, the data collected to prove that the space qualifies for alternate entry procedures.

Even with alternate entry procedures, the following requirements shall be met prior to entry:

- The internal atmosphere shall be tested for oxygen content, flammable gases and vapors and potential toxic air contaminants to ensure there is no hazardous atmosphere in the space;
- Forced air ventilation shall be provided in the area where the employee will be present in order to control any hazardous atmosphere;
- Authorized entrant shall wear a personal four gas meter for the duration of the work being performed in the space; and
- All alternate entry requirements have been met and documented on the Confined Space Permit.

6.5 Termination of Work

Individual departments shall contact the entry supervisor to terminate entry and cancel the permit when the work covered by the entry permit has been completed and/or a condition that is not allowed under the entry permit arises in or near the space.

6.6 New Hazard to Confined Space

If a new hazard is introduced during the course of work in the space, the permit must be modified, revalidated, and a new permit completed for entry. The entry permit must be kept at the location over the course of the entire operation. If the job runs longer than what was previously listed on the permit or beyond that particular shift a new permit is needed. When the job is completed, the permit must be returned to the supervisor. The B&G Department keeps a copy of the permit.

7 ATMOSPHERIC TESTING

Atmospheric testing is required for two distinct purposes:

1. Evaluation of the hazards of the permit space, and
2. Verification that acceptable entry conditions for entry into that space exist.

The atmosphere shall be tested to determine if a hazardous condition or oxygen deficiency or enrichment exist. At a minimum, the following parameters must be monitored. Next to each parameter is the OSHA acceptable range or concentration.

- Oxygen – 19.5% to 23.5%
- Combustible gases – Less than 10% of Lower Explosive Level (LEL)
- Hydrogen Sulfide – Less than 10 parts per million (ppm)
- Carbon Monoxide – Less than 35 ppm

NOTE: If the confined space contains another type of toxic atmosphere (e.g., dust, another hazardous chemical), contact the Director of EH&S or the Building Engineer & Environmental Safety Officer prior to entry.

7.1 Evaluation Testing

The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise, so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space. Evaluation and interpretation of these data, and development of the entry procedure, should be done by, or reviewed by, a technically qualified professional (e.g., OSHA consultation service, or certified industrial hygienist, registered safety engineer, certified safety professional, certified marine chemist, etc.) based on evaluation of all serious hazards.

7.2 Verification testing

The atmosphere of a permit space which may contain a hazardous atmosphere should be tested for residues of all contaminants identified by evaluation testing using permit specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Results of testing (i.e., actual concentration, etc.) should be recorded on the permit in the space provided adjacent to the stipulated acceptable entry condition.

7.3 Duration of testing

Measurement of values for each atmospheric parameter should be made for at least the minimum response time of the test instrument specified by the manufacturer.

7.4 Testing stratified atmospheres

When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope should be tested a distance of approximately 4 feet (1.22 m) in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.

7.5 Order of testing

A test for oxygen is performed first because most combustible gas meters are oxygen dependent and will not provide reliable readings in an oxygen deficient atmosphere. Combustible gases are tested for next because the threat of fire or explosion is both more immediate and more life threatening, in most cases, than exposure to toxic gases and vapors. If tests for toxic gases and vapors are necessary, they are performed last.

7.6 Calibration and Maintaining of Air Monitoring Equipment

All monitoring equipment must be properly calibrated and maintained in good working order by the Director of EH&S. All calibrations shall be done according to the manufacturer's specifications.

8 HAZARD ELIMINATION AND CONTROL

Each hazard associated with a confined space will be eliminated or controlled prior to confined space entry. The following sections outline how to eliminate or control some of the hazards associated with a confined space. Additional hazards may be present in a confined space.

NOTE: Please contact the Director of EH&S or Building Engineer & Environmental Safety Officer for a hazard evaluation if you are unsure about the hazards associated with a confined space.

8.1 Atmospheric Hazards

Forced fresh air ventilation is the first option for correcting an atmospheric hazard.

NOTE: If forced fresh air ventilation is used for other than the control of heat, the Director of EH&S or Building Engineer & Environmental Safety Officer **MUST BE** contacted prior to entry.

Below is the procedure for using forced fresh air ventilation:

1. Place the ventilator outside the space to be entered with the ventilator inlet six to ten feet from the entrance to the confined space.
2. Extend the flexible duct from the ventilator outlet into the area to be ventilated.
3. Position the duct so the end of the duct is suspended approximately two (2) feet above the bottom of the space.
4. Ventilate the space for a period of not less than ten (10) minutes before entry.
5. Continue the ventilation process until the atmosphere is acceptable.
6. Maintain the ventilation process during the entire space entry operation.

8.2 Ventilation

To ventilate a confined space:

1. Force fresh air into the space.
2. Make sure the source air is fresh.
3. Get air flow to bottom of space.
4. Use continuously.

8.3 Contents and Residues

Contents should be removed from the space when possible. Entrants must assume that residues may be present and

protect themselves from contact with harmful materials.

1. Remove contents.
2. Clean space.
3. Isolate space.
4. Protect personnel from contact with materials.

8.4 Potential Energy

Potential energy sources must be locked out and tagged out in accordance with Simmons's Lockout/Tag Out Program.

Potential energy sources include:

- Electrical equipment and circuits.
- Hydraulic equipment and systems.
- Pneumatic equipment and systems.
- Mechanical equipment and systems.
- Gravity operated equipment and systems.
- Thermal energy equipment, systems, or atmosphere.

8.5 Environmental Hazards

All of the environmental hazards must be addressed prior to entry. Examples include:

- Slippery surfaces.
- Extreme temperatures.
- Extreme surface temperatures.

8.6 Configuration

The configuration of the space can make safe operations more difficult. Use particular care when any of the following are present:

- Unusual slope or shape.
- Low overhead clearance.
- Drop offs in floors.
- Complex layout.

8.7 External Hazards

Below are some examples of external hazards, which may increase the hazards of the confined space entry. These hazards must be secured prior to entering the confined space.

- Vehicle traffic
- Machinery
- Equipment
- Processes

9 CONTRACTORS

If an outside contractor is hired to perform work within a permit-required confined space at the Simmons, the department supervisor shall contact the Director of EH&S or Building Engineer & Environmental Safety Officer 72 hours prior to beginning the work.

The Director of EH&S or Building Engineer & Environmental Safety Officer and the department supervisor shall coordinate entry operations with the entry supervisor of the outside contractor.

The Director of EH&S or Building Engineer & Environmental Safety Officer shall be responsible for the following:

- Informing the contractor that the area in question is a permit-required confined space;
- Reviewing the permit-required confined space program followed by the contractor;
- Informing the contractor of the hazards identified within the space and any past experience with the space;
- Informing the contractor of any precautions or procedures that have been implemented for the protection of employees in the permit-required confined space where contractor personnel will be working; and
- Debriefing the contractor at the end of the work to identify hazards discovered or created in the permit-required confined space during operations.
- Have the contractor complete the Permit-Required Confined Space Entry Plan. Refer to Appendix D.

10 RESCUE AND EMERGENCY SERVICES

The Boston Fire Department shall perform permit-required confined space rescue in accordance with 29 CFR 1910.146 (k) (1).

Outside contractors will be informed to contact Campus Safety by dialing 9888 from a campus phone or 617-735-9888 from an off campus phone to report an incident involving confined space.

11 TRAINING

The Director of EH&S or a contractor shall be responsible for providing appropriate training to Simmons' employees who have confined spaces within their department's areas. The purpose of this training is to provide the individual with an understanding and knowledge about confined space. Since no one at Simmons is permitted to enter a permit-required confined space, the training will be general awareness training and instrumentation. This training may also be accomplished via an on-line program or by a contractor.

11.1 General Awareness

- Definition of a confined space
- Definition of a permit-required confined space
- History of OSHA standard
- Review of the regulations including the OSHA standard
- Responsibilities of bystanders
- This program

11.2 Instrumentation

- Review of air monitoring equipment
- Calibration of air monitoring equipment
- Proper usage of air monitoring equipment
- Understanding the readings on the air monitoring equipment
- Limitation of air monitoring equipment
- Charging of air monitoring equipment

11.3 Training Frequency

Training will be conducted:

- Before the employee is assigned any confined space entry duties.
- Before a change in assigned confined space entry duties.
- Whenever there is a modification to the confined space entry procedures and/or duties.
- A review that points to confined space entry inadequacies, all affected employees will be informed of any changes.
- Whenever Simmons believes that an employee displays inadequacies of knowledge or the use of procedure.
- When there is an accident or incident, which warrants additional training.

11.4 Training Records

Training records will be maintained by the Director of EH&S.

12 REFERENCES

The following references and information presented in these references were used to develop this program:

- OSHA Confined Space Regulation 29 CFR 1910.146
- West Virginia University Permit-Required Confined Space Program

"Acceptable entry conditions" means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

"Attendant" means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

"Authorized entrant" means an employee who is authorized by the employer to enter a permit space.

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

"Confined space" means 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 (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
3. Is not designed for continuous employee occupancy.

"Double block and bleed" means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

"Emergency" means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

"Engulfment" means 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.

"Entry" means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

"Entry permit (permit)" means the written or printed document that is provided by the employer to allow and control entry into a permit space.

"Entry supervisor" means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

"Hazardous atmosphere" means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, 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 flammable limit (LFL);
2. Airborne combustible dust at a concentration that meets or exceeds its LFL;

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

3. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this Part and which could result in employee exposure in excess of its dose or permissible exposure limit;

NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

4. Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200 of this Part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

"Hot work permit" means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

"Immediately dangerous to life or health (IDLH)" means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

NOTE: Some materials -- hydrogen fluoride gas and cadmium vapor, for example -- may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

"Inerting" means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

NOTE: This procedure produces an IDLH oxygen-deficient atmosphere.

"Isolation" means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

"Line breaking" means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

"Non-permit confined space" means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

"Oxygen deficient atmosphere" means an atmosphere containing less than 19.5 percent oxygen by volume.

"Oxygen enriched atmosphere" means an atmosphere containing more than 23.5 percent oxygen by volume.

"Permit-required confined space (permit space)" means 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 which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

"Permit-required confined space program (permit space program)" means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

"Permit system" means the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

"Prohibited condition" means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

"Rescue service" means the personnel designated to rescue employees from permit spaces.

"Retrieval system" means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

"Testing" means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

Date of Survey	Confined Space #		Permit Required?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Location of Space (include Building # of closest building)					
Description of Space, including dimensions					
Confined Space if 1 – 3 below are ALL “Yes”			Permit Required Confined Space if ANY below are “Yes”		
1. Can be bodily entered?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Potential hazardous atmosphere? (See A)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2. Limited or restricted entry?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Potential for engulfment? (See B)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
3. Not designed for continuous human occupancy?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Internal configuration hazards? (See C)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
			Other serious safety hazard? (See D-G)	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A. Possible Atmospheric Hazards: O ₂ deficiency <input type="checkbox"/> O ₂ enrichment <input type="checkbox"/> Flammable <input type="checkbox"/> Toxic <input type="checkbox"/> Specific hazard for flammable and/or toxic: Comments:					
B. Possible Content/Engulfment Hazards: Previous contents <input type="checkbox"/> Content fill or removal <input type="checkbox"/> Shifting contents <input type="checkbox"/> Dust <input type="checkbox"/>					
C. Configuration of Space: Interior shape & slope <input type="checkbox"/> Low overhead clearance <input type="checkbox"/> Drop offs <input type="checkbox"/> Complex layout <input type="checkbox"/> Stability <input type="checkbox"/> Structural integrity <input type="checkbox"/> Comments:					
D. Potential Energy: Electrical <input type="checkbox"/> Hydraulic <input type="checkbox"/> Pneumatic <input type="checkbox"/> Mechanical <input type="checkbox"/> Fire control system <input type="checkbox"/> Steam <input type="checkbox"/>					
E. Environment in the Space Slippery Surface <input type="checkbox"/> Ambient temperature high or low <input type="checkbox"/> Surface temperatures high or low <input type="checkbox"/> Noise <input type="checkbox"/> Comments:					
F. Other Hazards: Animals <input type="checkbox"/> Insects <input type="checkbox"/> Biological organisms <input type="checkbox"/> Non-ionizing radiation <input type="checkbox"/> Ionizing radiation <input type="checkbox"/> Comments:					
G. External Hazards that could impact safety in space: Traffic <input type="checkbox"/> Machinery <input type="checkbox"/> Equipment <input type="checkbox"/> Processes <input type="checkbox"/> Terrain <input type="checkbox"/> Comments:					
If hazard evaluation determines this to be a PRCS, is space posted with signs or secured/locked indicating PRCS?					

Reasons for entering space & typical activities					
Who usually enters space? Maintenance <input type="checkbox"/> Production <input type="checkbox"/> Contractors <input type="checkbox"/> Other <input type="checkbox"/>					
Frequency of entry			Number of entry points #		
External connections to space					
Eligible for Alternate Procedure? (if Hazardous Atmosphere is ONLY hazard)		Yes <input type="checkbox"/>	No <input type="checkbox"/>	Eligible for Reclassification (If NO hazardous atmosphere and ALL hazards can be eliminated before entry)	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>
Comments:					
Survey completed by					

Here is the hyperlink to OSHA's Confined Space Entry Permit:

https://www.osha.gov/dte/grant_materials/fy11/sh-22318-11/Mod_6_CSPermit.pdf

Contractor Name:	Project Location:
Estimated Start Date	Estimated End Date
Work Order #:	Project or Job Title:
Project Contractor's Name:	Contact Information:
Environmental Health and Safety (EH&S) for Contractor:	Contact Information:
Contractor has a written Permit-Required Confined Space (PRCS) Program per OSHA 29 CFR 1910.146: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Competent Person's Name:	Entry Supervisor's Name:
Contact Information:	Contact Information:
Competent person as defined in OSHA 29 CFR 1910.146: Yes <input type="checkbox"/> No <input type="checkbox"/>	OSHA 29 CFR 1910.146: (attach certification)
Confined space information:	Scope of work in confined space:
Type of space:	
Location:	
PRCS: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Reclassification expected: Yes <input type="checkbox"/> No <input type="checkbox"/>	Work will potentially introduce new hazards into PRCS:

<p>Confined space ID#:</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> Explain:</p>
<p>Potential confined space hazards:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oxygen deficiency <input type="checkbox"/> Oxygen enrichment <input type="checkbox"/> Flammable/Explosive <input type="checkbox"/> Toxic <input type="checkbox"/> Entrapment <input type="checkbox"/> Engulfment <input type="checkbox"/> Entanglement <input type="checkbox"/> Fall <input type="checkbox"/> Electrical <input type="checkbox"/> Moving Parts <input type="checkbox"/> Other: 	<p>Energy sources present and means of isolation:</p> <p><i>Energy Source:</i> <i>Energy control procedures:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Water <input type="checkbox"/> Gas <input type="checkbox"/> Steam <input type="checkbox"/> Chemical <input type="checkbox"/> Waste <input type="checkbox"/> Mechanical <input type="checkbox"/> Electrical <input type="checkbox"/> Other: <p style="text-align: right;">(attach Lockout/Tag Out procedures)</p>

PPE:

- Safety glasses
- Face shield
- Leather gloves
- Rubber gloves
- Hearing protection
- Coveralls
- Steel toe rubber boots
- Steel toe boots
- Hard hat
- Safety vest
- Personal floatation device
- Other, specify:

Controls:

- Isolation of energy sources
- Purge the confined space
- Natural ventilation
- Continuous forced ventilation
- Conduct Gas Testing & Monitoring
- Entrance/exit points to be kept clear of all equipment
- Use of rescue/fall arrest equipment
- Warning notices/barricades
- Lighting
- Fire extinguisher
- Other, specify:

List other specific equipment and how to be used:

Rescue equipment and procedures (include type/make/model):

Entry recue will be performed by who:

Emergency information:

Campus Safety 617-735-9888

Boston Fire Department 911

Response time to work location:

Attendant's Name:	OSHA 29 CFR 1910.146 Training Date: (attach certification)
Attendant's Name:	OSHA 29 CFR 1910.146 Training Date: (attach certification)
Entrant's Name:	OSHA 29 CFR 1910.146 Training Date: (attach certification)
Entrant's Name:	OSHA 29 CFR 1910.146 Training Date: (attach certification)
Entrant's Name:	OSHA 29 CFR 1910.146 Training Date: (attach certification)
Planned communication method between attendant and entrants:	
<input type="checkbox"/> Phones (type/make/model): <input type="checkbox"/> Radio (type/make/model) <input type="checkbox"/> Voice/visual <input type="checkbox"/> Other, specify:	
Atmospheric monitoring:	Acceptable levels for each parameter:
Instrument (type/make/model):	
Parameters:	
Monitoring frequency:	
<input type="checkbox"/> Initial <input type="checkbox"/> Pre-entry <input type="checkbox"/> Continuous <input type="checkbox"/> Other:	

Preparer:	
Signature of person who filled out this plan:	Date:

Signature of approver:	Date:
<p><i>By signing this plan, the preparer and approver are certifying that the information provided is true, and that any change in the conditions described in this plan or inadequacies found for protecting employees during the PRCS entry may require a revision to this plan.</i></p> <p><i>Employees must review the requirements of the PRCS entry plan prior to starting work. The plan must be available at the job site during work activities that require entry to PRCSs.</i></p>	
Plan review by:	
Responsible Simmons Representative Signature:	Date:
Environmental Health and Safety Representative Signature:	Date: