



Confined Space Safety Plan

Environmental Health & Safety

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REVISION HISTORY

Revision Number	Revision Date	Revised By	Description of Change
00	6/3/2019	S. McLean	Initial plan creation and implementation.
01	10/26/2021	S. McLean	Updates to plan
02	3/13/2023	S. McLean	Updates to plan

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Introduction

This plan has been developed to comply with the Permit Required Confined Space standard--PRCS (29 CFR 1910.146) and contains procedures and requirements to protect employees from the hazards of confined spaces. The standard mandates employers to identify all confined spaces and develop a written program, outlining the necessary procedures associated with the entry into a confined space. The goal is to prevent injuries and accidental deaths associated with entry into confined spaces.

References

29 CFR 1910.146 Permit-Required Confined Space (PRCS) Standard
29 CFR 1926 Subpart AA, Confined Spaces in Construction

Plan Responsibilities

Florida Institute of Technology (Florida Tech) is committed to providing a safe work environment for its employees, students and visitors to complying with related regulatory agency requirements. The goal of this plan is to prevent and/or reduce the occurrence of accidents and associated risks through the cooperative efforts of all involved personnel.

Environmental Health & Safety

The Environmental Health & Safety (EH&S) Office has prepared this Permit-Required Confined Space Safety Plan to assist departments/personnel who may need assistance with the performance periodic work in confined spaces. EH&S will provide confined space training for each department upon written request. EH&S will assist departments with identifying and properly labeling confined spaces. EH&S must approve any entry permit before employees can perform work in a permitted confined space. EH&S shall consult with affected employees on the development and implementation of the PRCS program. EH&S will also make atmospheric monitoring results available to affected employees.

Departments

Each department will be responsible for compliance with the confined space plan as outlined in this manual. Departments must advise EH&S of any anticipated entry into a permitted space by completing all the necessary forms (Hazard Inventory and Assessment of Confined Spaces and Confined Space Entry Permit Form located in [Appendix B](#)). Departments shall ensure that all employees involved with the PRCS are properly trained. No employee shall be allowed into a PRCS without prior approval from EH&S.

Managers/Supervisors

The supervisor must assess the need to enter the PRCS, know employees are trained, know the hazards of the space, and what to do in case of an emergency. The supervisor must also ensure that all the proper equipment is available and that employees comply with Florida Tech Confined Space Safety Plan Guidelines. The supervisor in charge will have the responsibility for initiating the confined space entry permit and making certain that all requirements for entry are met before submitting the permit to EH&S for approval.

Employees

Employees who are expected to work in a permitted confined space must receive training on Florida Tech Confined Space Procedures, hazard reporting systems, hazards of confined spaces, and to understand the duties of entry supervisors, attendants and entrants. It is the responsibility of every employee expected to work in a PRCS to comply with the confined space procedures as outlined in this manual, in addition to specific departmental rules.

Types of Confined Spaces

Since there are many different types of confined spaces and degrees of hazard, it is extremely important to know the exact type of confined space and the hazards before entering the space.

A confined space must fulfill each of the following three characteristics:

- Large enough and so configured that an employee can bodily enter and perform assigned work;
- Has limited or restricted means for entry or exit;
- Is not designed for continuous employee occupancy.

A confined space is classified as a Permit-Required Confined Space (PRCS) if it has one or more of the following characteristics:

- Contain or has the potential to contain hazardous atmospheres, (e.g. lift stations);
- Contain a material that has the potential for engulfing an entrant;
- 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 smaller cross- section;
- Contains any other recognized serious safety or health hazard.

The following are typical commonly known confined spaces: tanks, vessels, vaults, pits, silos, storage bins, hoppers, pipelines, lift stations, manhole, tunnels, and digesters. Each department must ensure that their employees are familiar with all the confined spaces their personnel may be required to enter. At Florida Tech there are two type of confined spaces: manholes and room (pass through/storage). The locations of Florida Tech confined spaces are as follows:

<u>TYPE:</u>	<u>PERMIT (Yes/No)</u>	<u>LOCATION:</u>
Manholes	Yes	Numerous areas on campus*
Room (pass through/storage)	No	QUAD 407/111A

Note: *these locations are not entered by Florida Tech employees. Local government personnel are the entry team that performs maintenance and/or checks of the area.

Non-Permit Required Confined Space

General Requirements

When a confined space does not contain any of the characteristics listed under permit-required confined space, it shall be classified as non-permit required confined space. Due to the dangers associated with confined space entry, **all confined spaces shall be considered permit required confined spaces until an initial evaluation demonstrate otherwise.** No employee shall perform work within any confined space until its safety has been determined by performing an inspection and conducting atmospheric testing. To reclassify a space as non-permit confined space the following conditions must be met:

- The permit space must pose no actual or potential atmospheric hazards.
- All non-atmospheric hazards within the space must be eliminated without entry into the space and must remain eliminated.

Permit-Required Confined Space

Permit-Required Confined Space Entry Requirements

Entry into confined spaces without the proper precautions could result in injury, impairment or death. Before an employee enters the space, each department must meet the following conditions:

- Ensure that the permit required confined space has been evaluated and properly tested for oxygen content, flammable gases, and toxic gases, fumes, vapors, dust and/or mists.
- Ensure all the entry requirements have been completed and approved by EH&S. The entry permit, upon approval, shall be posted at the entrance to the confined space.

- Evaluate physical hazards such as heat, noise, vibration, machine guarding, slip-trip and fall, activation of equipment, entrapment and /or engulfment by materials.
- Employees must be designated to provide the active roles of Entry Supervisor, Authorized Entrant, and Attendant prior to entry.
- At least one attendant must be stationed outside the permit space into which entry is authorized until the completion of the operation.
- The Entry Supervisor shall initiate a pre-planning meeting to familiarize all employees involved in the entry on the procedures, guidelines, hazards of the confined space and how to control them, emergency procedures, engineering controls, personal protective equipment, duties and responsibilities of each employees.
- All energy sources, which are potentially hazardous to, confined space entrants must be secured, relieved, disconnected and/or restrained before personnel are permitted to enter the confined space.
- Means of safe entry and exit must be provided for confined spaces. Each entry and exit point should be evaluated to determine the most effective method and equipment to be utilized to enable employees to safely enter and exit the confined space.
- Appropriate retrieval equipment or methods must be used whenever a person enters a confined space. A mechanical device (e.g. a tripod) must be available to retrieve personnel from vertical confined spaces greater than five feet in depth. Entry supervisor may wave use of retrieval equipment only after consultation with EH&S and if use of the equipment increases the overall risks of entry or does not contribute to the rescue.
- Any hazard detected will be eliminated before entry into any confined space.

Atmospheric Testing

A competent person (e.g. EH&S staff) using an approved and properly calibrated multi-gas meter must evaluate all permit-required confined spaces before entry. Gas meter alarms shall be set in accordance with the appropriate Action level, Personal Exposure Level or Threshold Limit Value. Before any employee enters a confined space, each department must ensure that the atmosphere was tested for the following conditions in the order given:

Oxygen Content:

The oxygen level must be between 19.5% and 23.5%. Any increase or decrease in the level of oxygen levels must be reported to the entry supervisor and entry delayed until the cause for such increase or decrease is determined.

Flammable Gases, Mists or Vapor:

This must be below 10% of the lower flammable limit for gas, mist or vapor detected. Airborne combustible dust must be below the listed lower flammable/explosive level.

Toxic Gases, Fumes, Dusts, And Mists:

Must be below the Permissible Exposure Level (PEL) as listed in OSHA 29 CFR 1910.1000, Subpart Z, Toxic and Hazardous Substances ([TABLE Z-1 Limits for Air Contaminants. - 1910.1000 TABLE Z-1](#)). Acceptable reading for carbon monoxide must be below 10 PPM.

Alternate Procedures for Entering Prcs's

Florida Tech employees may use these alternate procedures for entry into permit spaces **under the following conditions:**

- The only hazard posed is an actual or potential hazardous atmosphere;
- It has been demonstrated that continuous forced air ventilation alone is sufficient to maintain safety for entry;
- Monitoring and inspection data have been developed that supports only an atmospheric hazard and continuous forced air ventilation alone maintains safety;
- If an initial entry is necessary, an entry permit is used;
- Entry into the permit space complies with the following;
 - Any conditions making it unsafe to remove any entrance cover are eliminated before the cover is removed.
 - When entrance covers are removed, the openings are promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that protects each employee working in the space from foreign objects entering the space.
 - Before an employee enters the space, the internal atmosphere is tested, with a calibrated direct-reading instrument, for the following conditions in the order listed:
 - Oxygen content,
 - Flammable gases and vapors, and
 - Potential toxic air contaminants.
 - There is no hazardous atmosphere within the space whenever any employee is inside the space.
 - Continuous forced air ventilation is used as follows:
 - No employee enters the space until the forced air ventilation has eliminated any hazardous atmosphere;

- The forced air ventilation is directed so as to ventilate the immediate areas where an employee is or will be present within the space and continues until all employees leave the space;
- A clean source of forced air supply is used for ventilation which does not increase the hazards in the space.
- The atmosphere within the space is periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere;
- If a hazardous atmosphere is detected during entry:
 - Each employee leaves the space immediately;
 - The space is evaluated to determine how the hazardous atmosphere developed;
 - Measures are implemented to protect employees from the hazardous atmospheres before any subsequent entry.
- The space is verified for safe entry and that the necessary protective measures described above have been taken through a written certification.

Note: If alternate procedures are used - No permit or attendant is required. However, training is required.

Permit Systems

The Confined Space Entry Permit is the most important tool in assuring safety during entry into a confined space with known hazards or with unknown or potentially hazardous atmospheres. The entry permit process guides the supervisor and workers through a systematic evaluation of the space to be entered. Before each entry into a Permit Required Space, an entry permit will be completed by the entry supervisor, approved by EH&S, contents communicated to all employees involved in the operation and conspicuously posted near the work location. A standard permit should be used for all entries. (See Appendix C)

Mandatory Elements for Entry Permits

The entry permit at a minimum shall contain the following:

- Permit space to be entered.
- Purpose of the entry.
- Date of the permit and the authorized duration of the entry permit.
- Name of authorized entrants within the permit space.
- Personnel, by name, currently serving as attendants.
- Individual, by name, currently serving as entry supervisor, with a space for the signature.
- Hazards of the permit space to be entered.

- Measures used to isolate the permit space and to eliminate or control the permit space hazards before entry, e.g., lockout or tagout of equipment and procedures for purging, inserting, ventilating, and flushing permit spaces.
- Acceptable entry conditions.
- Results of initial and periodic tests performed, accompanied by the names or initials of the testers and time when tests were performed.
- Rescue and emergency service that can be summoned and the means (e.g., equipment to use, phone number to be called) for summoning those services.
- Communication procedures to be used by authorized entrants and attendants to maintain contact during enters.
- Other necessary equipment, given the circumstances of the particular confined space, in order to ensure employee safety.

A permit is only valid for one shift. For a permit to be renewed, several conditions shall be met before re-entry into the confined space. First, atmospheric testing shall be conducted, and the results must be within acceptable limits. If the atmospheric test results are unacceptable, employees should be prohibited from entering the space until acceptable limits are achieved.

Any problems encountered during an entry operation should be noted on the permit so that appropriate revisions can be made to the confined space program and/or permits.

Canceling Entry Permits

The entry supervisor shall terminate entry and cancel the entry permit when the entry operation covered by the entry permit has been completed or when a condition that is not allowed under the entry permit arises in or near the permit space. **All canceled permits will be returned to EH&S** where they will be kept on file for at least one year. Canceled permits must be available for inspection by regulatory agencies and for the confined space program review.

Duties of Assigned Employees

All employees expected to work in a confined space must be designated as an entry supervisor, authorized entrant or attendant and given a detailed description of the duties expected from each.

Entry Supervisor

An entry Supervisor is a qualified person authorized to approve confined space entry. This person should:

- Determine if conditions are acceptable for entry.
- Authorize entry and oversee entry operations.
- Terminate entry and cancel permits when entry operations are completed or if a new condition exists.
- Serve as an attendant, as long as the person is trained and equipped appropriately for the role.
- Ensure that measures are in place to keep unauthorized personnel clear of the area.
- Check the work at least twice per shift to verify and document permit requirements are being observed (more frequent checks should be made if operations or conditions are anticipated that could affect permit requirements).
- Ensure that necessary information on hazards is kept at the work site for the employees and/or rescue team.
- Ensure a rescue team is available and instructed in their rescue duties (e.g., an onsite team or a prearranged outside rescue service)
- Ensure that at least one member of the rescue team has current certification in first aid and Cardiopulmonary Resuscitation (CPR).
- Ensure that the attendant knows how to communicate with the entrants and how to obtain assistance.

Authorized Entrants

Employees granted permission to enter a confined space should:

- Read and understand the entry permit requirements.
- Stay alert to hazards that could be encountered in a confined space.
- Use the protective equipment required by the permit.
- Immediately exit the confined space when:
 - Ordered to do so by the attendant;
 - They perceive they are in danger, or
 - They notice physiological stresses or changes in themselves or co-workers (e.g., dizziness, blurred vision, and shortness of breath).

Attendant

The Attendant must be stationed outside the confined space and must:

- Be knowledgeable of and be able to recognize potential confined space hazards.

- Maintain a sign-in/sign-out log with a count of all persons in the confined space and ensure all entrants sign in/sign-out.
- Monitor surrounding activities to ensure the safety of personnel.
- Keep unauthorized personnel out of the confined space.
- Maintain effective and continuous communication with personnel during confined space entry, work and exit.
- Order personnel to evacuate the confined space if they:
 - Observe a condition, which is not allowed on the entry permit.
 - Notice the entrant acting strangely, possibly because of exposure to hazardous substances.
 - Notice a situation outside the confined space, which could endanger entrants.
 - Notice within the confined space, a hazard which has not been previously
 - Recognized or taken into consideration.
- Not leave the workstation or perform other activities that might interfere with the attendant's primary duties.
- Immediately summon the Rescue Team if rescue becomes necessary.
- Perform **non-entry** rescue as required.

Training and Education

Environmental Health & Safety

EH&S shall provide training to personnel who are assigned to work in confined spaces. This training will include coverage of the hazards associated with confined space entry and will provide the knowledge, and skills necessary for the safe performance of their duties in confined spaces. This training will be provided at no cost to employees.

Training will include:

- Explanation of the general hazards associated with confined spaces;
- Discussion of specific confined space hazards associated with the facility, location or operation;
- Reason for, proper use, and limitations of personal protective equipment and other safety equipment required for entry into confined spaces;
- Explanation of permits and other procedural requirements for conducting a confined space entry;
- A clear understanding of what conditions would prohibit entry;
- Duties and responsibilities as a member of the confined entry team;

- Description of how to recognize symptoms of overexposure to probable air contaminants, and method(s) for alerting attendants;
- How to respond to emergencies.

Annual Refresher Training

Employees required to work in a confined space must receive annual refresher training to maintain competence in entry procedures.

Required Confined Space Equipment

All employees expected to work in confined spaces need proper training on the use of rescue equipment. The following equipment must be readily available before entry into a confined space:

- Communication equipment, retrieval equipment, fan for ventilation, lockout/tagout devices, flashlights, personal protective equipment and any other equipment necessary to ensure safety of the workers.

Emergency Response and Rescue

The Melbourne Fire Department responds in case of a confined space emergency. The Institute's Security will aid at the emergency site.

According to OSHA standard, 29 CFR 1910.146, an employer must comply with the following when using an outside agency for confined space rescue services:

- Inform the rescue service of the hazards of the space;
- Provide the rescue service with access to all permit spaces from which rescue may be necessary.

Non-Entry Rescue

To facilitate non-entry rescue, retrieval systems or methods must be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. The retrieval method must meet the following:

- Authorized entrants going into the confined space must wear appropriate chest or full body harness, with a retrieval line attached at the center of their back;

- The retrieval line must be attached to a mechanical device or fixed point outside the space in such a manner that a non-entry rescue/retrieval can begin as soon as needed;
- A retrieval system must be available to retrieve personnel in a vertical type of confined space more than 5 feet in depth;
- If there are known hazardous substances in the confined space, the material safety data sheet must be available on site in case an employee is injured.

Contractors

When contractors or other non-employees are required to enter permit spaces to perform work, the following procedures must be followed:

- Inform the contractor that the workplace contains permit spaces and that they must follow a permit space entry program per OSHA standard 29 CFR 1910.146, including an authorized permit for entry.
- Apprise the contractor of the elements, including the hazards identified and the experience with the space that makes it a permit space;
- Apprise the contractor of the precautions or procedures implemented for protection of employees in or near permit spaces; and
- Debrief the contractor at the conclusion of the entry regarding the permit space program followed and regarding any hazards confronted or created in the space(s) during entry operations.
- Contractors performing permit space entry are required to:
 - Obtain and use the available information provided;
 - Coordinate entry operations with others working in or near permit spaces; and
 - Inform Florida Tech of the permit space program that will be followed, and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

Annual Program Review

EH&S will review each department's confined space entry activities to determine compliance with confined space procedures as outlined in this manual. EH&S will review the previous year cancelled permits from each department to determine which sections of the program should be revised, updated or modified to reflect current employee and program needs.

Appendix A: Definitions

Acceptable Entry Conditions

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

Asphyxiation

A class of dangerous gases that displace oxygen and cause unconsciousness or death by suffocation.

Attendant

An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs the duties assigned in the employer's permit-required confined space program.

Authorized entrant

An employee who is authorized by the employer to enter a permit space.

Blanking or blinding

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.

Competent Person

One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Confined space

Any space that meets all the following conditions:

- Is large enough and so configured that an employee can bodily enter and perform assigned work;
- Has limited or restricted means for entry or exit;
- Is not designed for continuous human occupancy.

Double block and bleed

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

The occurrence (including any failure of hazard control or monitoring equipment) or the occurrence of events internal or external to the permit space that could endanger entrants.

Engulfment

The surrounding and effective capture of a person by a liquid or finely divided (flammable) solid substances that can be aspirated to cause death by filling or plugging the respiratory system, or materials that can exert enough force on the body too cause death by strangulation, constriction, or crushing.

Entrapment

The trapping of an employee or worker by inwardly converging walls or by a floor that slopes downward and tapers to smaller cross sections.

Entry

The action by which a person passes through an opening into a permit space. Entry 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)

A written document that is approved by the employer to allow and control entry into a permit space and that certifies the requirements of paragraph (f) of 29 CFR 1910.146.

Entry supervisor

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 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

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), or injury, from one or more of the following causes:

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

- An atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
- An atmosphere where the permissible exposure limit for a certain chemical has been exceeded and could result in exposure.

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.

- Any other atmospheric condition that is immediately dangerous to life.

Hot work permit

The employer's written authorization to perform operations (for example: welding, cutting and heating) capable of providing a source of ignition.

Immediately dangerous to life or health (IDLH)

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

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

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, lockout/tagout of all source of energy, removing sections of lines, pipes, or dust.

Line breaking

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

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

An atmosphere containing less than 19.5 percent of oxygen.

Oxygen Enriched

An atmosphere containing more than 23.5 percent oxygen.

Permit-required confined space

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

- Contain or has the potential to contain hazardous atmospheres, (e.g. lift stations).
- Contain a material that has the potential for engulfing an entrant.
- 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 smaller cross- section.
- Contains any other recognized serious safety or health hazard.

Permit system

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

Any condition in the permit that is not allowed by the permit during the period when entry is authorized.

Purge

Complete air exchange in a confined space prior to entry, which is designed to remove, contaminated air and replace it with fresh air.

Retrieval system

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

Testing

The process by which the hazards that may confront an entrant of a permit confined 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.

Appendix B: Hazard Inventory and Assessment of Confined Spaces
FLORIDA TECH

Hazard Inventory and Assessment of Confined Spaces

Department: _____ Building/Location: _____

Performed By: _____ Date: _____

Name of Confined Space	Location	Hazardous Atmosphere	Engulfment Hazard	Entrapment Hazard	Hazardous Energies	Other Hazards (Specify)	Atmospheric Testing CO, O2, H2S, Toxic, Combustible

Y = Yes

N = No

P = Potential

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Appendix C: Confined Space Entry Permit



CONFINED SPACE ENTRY PERMIT

Confined Space Location/Description/ID Number: _____

Date: _____

Purpose of Entry _____

Time In: _____

Permit Canceled Time: _____

Time Out: _____

Reason Permit Canceled: _____

Supervisor: _____

Rescue and Emergency Services-

Hazards of Confined Space	Yes	No	Special Requirements	Yes	No
Oxygen deficiency			Hot Work Permit Required		
Combustible gas/vapor			Lockout/Tagout		
Combustible dust			Lines broken, capped, or blanked		
Carbon Monoxide			Purge-flush and vent		
Hydrogen Sulfide			Secure Area-Post and Flag		
Toxic gas/vapor			Ventilation		
Toxic fumes			Other- List:		
Skin- chemical hazards			Special Equipment		
Electrical hazard			Breathing apparatus- respirator		
Mechanical hazard			Escape harness required		
Engulfment hazard			Tripod emergency escape unit		
Entrapment hazard			Lifelines		
Thermal hazard			Lighting (explosive proof/low voltage)		
Slip or fall hazard			PPE- goggles, gloves, clothing, etc.		
			Fire Extinguisher		

Communication Procedures: _____

DO NOT ENTER IF PERMISSABLE ENTRY LEVELS ARE EXCEEDED		Test Start and Stop Time:	
	Permissible Entry Level	Start	Stop
% of Oxygen	19.5 % to 23.5 %		
% of LEL	Less than 10%		
Carbon Monoxide	35 PPM (8 hr.)		
Hydrogen Sulfide	10 PPM (8 hr.)		
Other			

Name(s) or Person(s) testing: _____

Test Instrument(s) used- Include Name, Model, Serial Number and Date Last Calibrated: _____



CFM-Ventilation	Size-Cubic Feet	Pre-Entry Time	<input type="checkbox"/> Central Notified Before Entrance	Time Notified:	
			<input type="checkbox"/> Central Notified After Entrance	Time Notified:	

Authorized Entrants

Authorized Attendants

PERMIT AUTHORIZATION	
I Certify that all actions and conditions necessary for safe entry have been performed.	
Name-Print:	
Signature:	
Date:	Time:

Entry Procedure Checklist: Complete the following steps before, during, and after a confined space entry:

Step 1: Obtain a Permit-Confined Space Entry Form from Environmental Health & Safety (EH&S).

Step 2: Notify Supervisor before the Confined Space Entry.

Step 3: Verify Confined Space Meter has been calibrated and is in working order.

Step 4: Complete the top portion of the Permit-Confined Space Entry Form.

Step 5: Ensure all rescue equipment (e.g. tripod, body-belt, lanyard) is in place prior to entry.

Step 6: Monitor the confined space with the Multi-Gas Detector prior to entry. The entrant and attendant should sign the permit authorization section on the bottom of the permit to ensure all actions and conditions necessary for safe entry have been performed.

Step 7: Employee entering the confined space should wear the Multi-Gas Detector after the pre-atmosphere test. The employee should also have a full body harness and lanyard attached to the rescue tripod. Employee shall have a radio and any other necessary personal protective equipment.

Step 8: Employee can enter the confined once Step 7 is completed. The entrant and attendant should complete the Hazards of Confined Spaces and Special Requirements Section of the Permit-Confined Space Entry Form once the employee is within the confined space. The entrant should also gather the % Oxygen, % Explosive Gases, Carbon Monoxide, and Hydrogen Sulfide readings and communicate them to the attendant to place on the Permit Form.

Step 9: The attendant should maintain constant communication with the entrant until the entrant has exited the confined space.

Step 10: The attendant should contact Supervisor once the entrant has exited the confined space.

Step 11: The Permit-Confined Space Entry Form should be given to program coordinator, to file in the Confined Space Records.

Environmental Health & Safety at ehs@fit.edu

Appendix D: Permit-Required Confined Space Standards

Permit-required Confined Spaces Standard, 29 CFR 1910.146

OSHA: [Occupational Safety and Health Administration - Home](#)

Permit-required confined spaces

(1910.146)1.1. ([Permit-required confined spaces - 1910.146](#))