



Confined Spaces Program

Complies with
29 CFR 1910.146
OSHA General Industry Standards

Updated: February 2021

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INTRODUCTION

A. Summary

The Matanuska-Susitna Borough School District (MSBSD) is committed to providing a safe environment for our employees and students. In pursuit of this goal, a Confined Spaces Program is in place to establish the minimum requirements for work in confined spaces. The District will identify confined spaces, evaluate the potential dangers of them, and where needed, create permits to limit access.

According to the Occupational Safety and Health Administration (OSHA) a confined space is any space that is; large enough for an employee to enter fully and perform assigned work; is not intended for continuous occupancy; and has a limited or restricted means of entry and exit.

A confined space permit is required when it meets any of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere.
- Contains a material with the potential to engulf someone entering the space.
- Contains an internal configuration that can cause an entrant to be trapped or asphyxiated.
- Contains any other serious safety or health hazard.

B. Regulations and Standards

This program complies to OSHA 29 CFR 1910.146 General Industry Standards. All employees are required to comply with this Confined Spaces Program. Only those who have received training and have been authorized by the entry supervisor may enter a confined space. OSHA defines entering a confined space as any part of the body passing through the entrance.

RESPONSIBILITIES

A. Program Management

The District has developed this Confined Spaces Program to ensure the safety of all employees and to determine methods to prevent unauthorized entry into confined spaces. The following individuals are responsible for administering the District's Confined Spaces Program:

Program Compliance

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Matanuska-Susitna Borough School District
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P: 907-864-2024; F: 907-864-2081

Program Review and Support

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B. Facilities Department

The Facilities Department has the primary responsibility for training and implementing the Confined Spaces Program. To ensure the safety of all employees the Facilities Department will:

- a. Identify all confined spaces on district property according to the Permit-Required Confined Space Decision Flow Chart ([Attachment A](#)).
- b. Identify "permit spaces" and ensure they are secure and labeled with a Permit Space Warning Sign ([Attachment D](#)).
- c. Label Non-Permit Required Spaces with the Confined Space Warning Sign ([Attachment C](#)).
- d. Determine what hazards exist in the confined space prior to entry into the space, and prior to issuing a permit.
- e. Periodically review the list of confined spaces for changes or additions.
- f. Retain issued and canceled permits for one year.

C. Authorized Entrant

Authorized entrants are required to:

- a. Know space hazards, including information on the means of exposure such as:
 - Inhalation.
 - Dermal absorption.
 - The signs and symptoms of exposure; and
 - The consequences of an exposure.
- b. Use Personal Protective Equipment (PPE) properly.
- c. Maintain communication with attendants to receive information about changes to confined space status.
- d. Exit from the permit space as soon as possible when:
 - Ordered by the authorized person.
 - The entrant recognizes the warning signs or symptoms of an exposure.
 - A prohibited condition exists; or
 - An automatic alarm is activated.
- e. Alert the attendant when a prohibited condition exists or when warning signs or symptoms of exposure exists.

D. Attendant

The attendant is required to:

- a. Remain outside the permit space during entry operations unless relieved by another authorized attendant.
- b. Perform non-entry rescues when specified by the established Confined Spaces Program rescue procedure.
- c. Know existing and potential hazards, including information on the mode of exposure, signs or symptoms, consequences, and physiological effects.
- d. Maintain communication with authorized entrants and keep an accurate account of those workers entering the permit space.
- e. Order evacuation of the permit space when:

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- A prohibited condition exists.
 - A worker shows signs of physiological effects of hazard exposure.
 - An emergency outside of the confined space exists; and
 - The attendant cannot effectively and safely perform required duties.
- f. Summon rescue and other services during an emergency.
 - g. Ensure that unauthorized people stay away from permit spaces or exit immediately if they have entered the permit space.
 - h. Inform authorized entrants and the entry supervisor if any unauthorized person enters the permit space; and
 - i. Perform no other duties that interfere with the attendant's primary duties.

If an attendant will be required to monitor multiple spaces, emergency procedures will be outlined by the Entry Supervisor prior to issuing the permit.

E. Entry Supervisor

The Entry Supervisor is required to:

- a. Issue confined space permits, cancel confined space permits, and retain confined space permits for one year.
- b. Know space hazards including information on the mode of exposure, signs or symptoms, and consequences of exposure.
- c. Verify that all employees have been trained on the Confined Spaces Program.
- d. Verify emergency plans and specified entry conditions such as permits, tests, procedures, and equipment before allowing entry.
- e. Ensure that the proper PPE is available and worn by authorized entrant.
- f. Terminate entry and cancel permits when entry operations are completed or if a new condition exists.
- g. Verify that rescue services are available and that the means for summoning them are operable before entry.
- h. Take appropriate measures to remove unauthorized entrants; and
- i. Ensure that entry operations remain consistent with the entry permit and that acceptable entry conditions are maintained.

PROGRAM COMPONENTS

A. Identify and Evaluate

Facilities will use the Permit-Required Confined Space Decision Flow Chart to categorize confined spaces on district properties ([Attachment A](#)). The District will maintain a catalog of confined spaces on district property. The catalog will list an identifying name for the spaces, and the hazards that exist in permit required spaces.

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B. Implementation

1. All identified confined spaces shall be locked to prevent unauthorized entry.
2. Non-permit spaces may be accessed by employees who have taken the District's confined spaces training.
3. Permit required spaces may only be accessed by filling out a Permit Space Access Request Form, which must be signed by an entry supervisor ([Attachment B](#)). Hazard control may be necessary for safe entry. These may include:
 - a. Specifying acceptable entry conditions.
 - b. Isolating the permit space.
 - c. Providing barriers.
 - d. Verifying acceptable entry conditions; and
 - e. Purging, making inert, flushing, or ventilating the permit space.

C. Equipment for Safe Entry

In addition to Personal Protective Equipment (PPE), other equipment may be required for safe entry into a permit space including:

1. Testing, monitoring, ventilating, communications, and lighting equipment.
2. Barriers and shields.
3. Ladders; and
4. Retrieval devices.

D. Detection of Hazardous Conditions

If hazardous conditions are detected during entry, district and contract employees must immediately leave the space. The Entry Supervisor will evaluate the space to determine the cause of the hazardous atmosphere and modify the entry requirements as necessary.

E. Informing Contract Employees

When employees of more than one employer are conducting entry operations, MSBSD must coordinate entry operations to ensure that affected employees are appropriately protected from permit space hazards. The Entry Supervisor will ensure contractors are provided with all pertinent information regarding hazards and operations in permit spaces and be debriefed at the conclusion of entry operations.

Pertinent information includes but is not limited to:

1. The permit space and permit space entry requirements.
2. Identified hazards.
3. MSBSD's experience with the space, such as knowledge of hazardous conditions; and
4. Precautions or procedures to be followed when in or near permit spaces on MSBSD premises.

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F. Permit Entry

If a space contains a hazard that classifies it as a permit required space, there are two entry procedures that can apply.

1. If the hazard is an actual or potential hazard that can be made safe for entry using forced air ventilation, the space requires no permit (OSHA 1910.146 (C) 5 and 7).
 - a. Once forced air ventilation is started, the entrant should test the atmosphere to make sure the atmosphere is safe.
 - b. An attendant should remain outside the space to monitor the employee in the space.
2. If forced air ventilation cannot be used, the permit space procedure requires that an entry permit be filled out and posted at the confined space before entry begins. The entry permit will define the procedures required for entry.

G. Entry Permits

A Permit Space Access Request, signed by the Entry Supervisor, must be posted at the entrance of all permit spaces, or otherwise made available to entrants before they enter a permit space. The permit must verify that pre-entry preparations outlined in this program have been completed. The duration of entry permits must not exceed the time required to complete an assignment. Entry permits must include:

1. Name of permit space to be entered, authorized entrant(s), eligible attendants and individuals authorized to be Entry Supervisors.
2. Atmosphere test results.
3. Tester's initials or signature.
4. Name and signature of supervisor who authorizes entry.
5. Purpose of entry and known space hazards.
6. Measures taken to isolate permit spaces and to eliminate or control space hazards.
7. Name and telephone numbers of rescue and emergency services and procedures to contact them.
8. Date and authorized duration of entry.
9. Acceptable entry conditions.
10. Communication procedures and equipment to maintain contact during entry.
11. Additional permits, such as for hot work, that have been issued authorizing work in the permit space.
12. Special equipment and procedures, including PPE and alarm systems; and
13. Any other information needed to ensure employee safety.



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H. Canceled Entry Permits

The Entry Supervisor must cancel entry permits when an assignment is completed or when a new condition exists. New conditions must be noted on the canceled permit and used in revising the permit space program. Canceled entry permits will be kept for at least one year.

I. Training

Before the initial work assignment begins, the Entry Supervisor will provide proper training for all workers who are required to work in confined spaces. After the training, the entry supervisor must ensure that the employees have acquired the understanding, knowledge, and skills necessary to safely perform their duties. Additional training is required when:

1. The job duties change.
2. A change occurs in the Confined Space Program or the permit space operation presents any new hazard; and
3. An employee's job performance shows deficiencies.

In addition to this training, rescue team members also require training in CPR and first aid. The Entry Supervisor must certify that this training has been provided. The Entry Supervisor must keep a record of employee training and make it available for inspection by employees and their authorized representatives. The record must include the employees name, trainer's signature or initials and dates of the training.

J. Test and Monitor

Before entry into a permit space, employees should test the atmosphere to ensure the environment is safe for entrance.

1. Atmospheric testing is done in this sequence:
 - a. Oxygen (19.5-23.5 - OSHA)
 - b. Combustible Gases or Vapors (10% Lower Flammable Limit - OSHA)
 - c. Carbon Monoxide (35 ppm - NIOSH)
 - d. Other tests as required
2. Where possible implement methods for controlling hazards while work is done.
3. Continue to regularly test and monitor the confined space while work is being done.

K. Entry Operations

1. Permit authorization

- a. Before beginning work in a permit space, the entrant must obtain a permit from the Entry Supervisor.
- b. Entry Supervisors are responsible for making sure that the testing and controls needed to enter a permit space are followed ([Attachment B](#)).
- c. Ensure all hazard controls for the space are followed.
- d. Once pre-entry testing is complete, work may begin in the space.

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- e. Permits will be considered canceled when the approved permit work is complete.
- f. Permits will be canceled if a hazardous condition is found. A new permit will be issued once the hazardous condition is mitigated.
- g. Canceled permits are kept for up to one year and used to audit the Confined Spaces Program.

2. Entry procedures

- a. Before entry, a rescue plan will be agreed upon. This plan will address who is to be contacted and what procedures will be used to prevent unauthorized employees from attempting to rescue.
- b. After pre-entry testing is completed, the authorized entrant may enter and begin work. There will be at least one attendant stationed outside the permit space for the duration of the work.
- c. Tests are completed and recorded on the permit.
- d. If work requires using another contractor, both permit plans should be followed to coordinate the efforts of the District and contractor's employees.
- e. Where possible each space should have its own attendant. If one attendant is to cover multiple spaces, the Entry Supervisor is responsible for outlining how this will be done safely.

L. Rescue Service Personnel

Rescue service personnel will be provided with PPE and rescue equipment, including respirators, and be trained on how to use it. Rescue service personnel must also receive the authorized entrants training and be trained to perform assigned rescue duties. All rescuers will receive training in first aid and CPR.

The Entry Supervisor will ensure that practice rescue exercises are performed yearly and that the rescuers are provided access to permit spaces so they can practice rescue operations. Rescuers must also be informed of the hazards of the permit space.

M. Harnesses and Retrieval Lines

Authorized entrants who enter a permit space must wear a chest or full body harness with a retrieval line attached to the center of their backs near shoulder level or above their heads. Wristlets may be used if the Entry Supervisor can demonstrate that the use of a chest or full body harness is not feasible or creates a greater hazard. The Entry Supervisor must ensure that the other end of the retrieval line is attached to a mechanical device or a fixed point outside the permit space. A mechanical device must be available to retrieve someone from vertical type permit spaces more than five feet deep.



DEFINITIONS

Attendant- Employees who have received Confined Spaces training but will not enter the space. They are the safety team that will monitor conditions in the space and get the Authorized Entrant aid if they should become incapacitated.

Authorized Entrant- An employee who has filled out the permit required to access a specific confined space. They are the only workers who should enter permit spaces.

Confined Space- A confined space:

- Is large enough for an employee to enter fully and perform assigned work.
- Is not designed for continuous occupancy by the employee.
- Has a limited or restricted means of entry or exit.

These spaces may include underground vaults, tanks, storage bins, pits and diked areas, vessels, silos, and other similar areas.

Entry- OSHA defines entry into a confined space as any body part crossing the threshold.

Entry Supervisor- The Entry Supervisor is responsible for determining the safety of a confined space. They oversee pretesting and administer permits for permit space access.

Hazardous Atmosphere- An atmosphere is considered hazardous if it could lead to the death of an employee, either due to oxygen deficiency, toxic or unbreathable gases, or high concentrations of dust.

Permit- A form that is used to document access to Permit Spaces. The permit has spaces for receiving authorization, the testing that should be done before and during work, and a check out signature. Permits may also be audited as records to verify that the program is properly implemented.

Permit Space- A permit-required confined space has one or more of these characteristics:

- Contains or has the potential to contain a hazardous atmosphere.
- Contains a material with the potential to engulf someone who enters the space.
- Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section; and/or
- Contains any other recognized serious safety or health hazard.

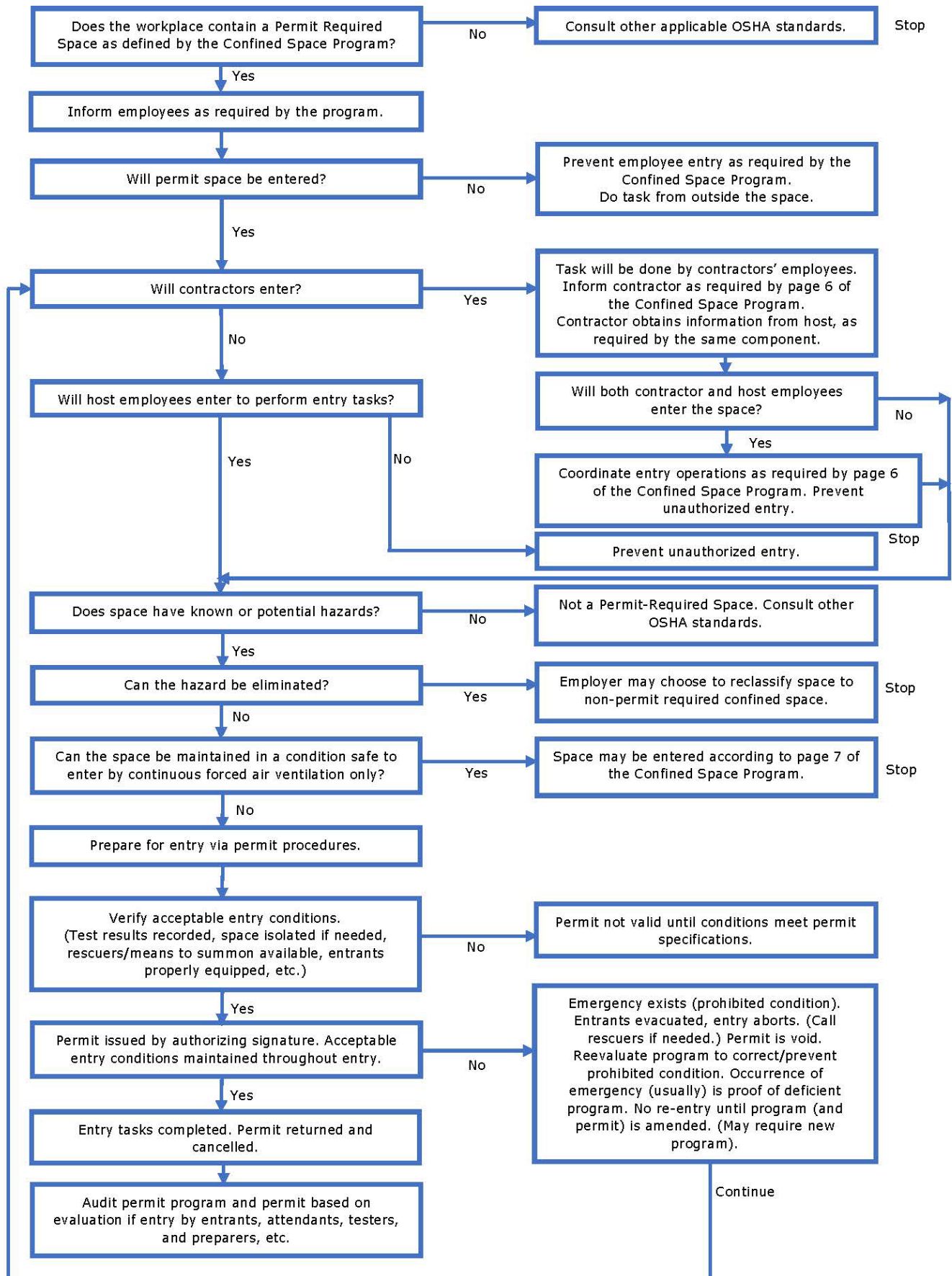


ATTACHMENTS

- A. Permit-Required Confined Space Decision Flow Chart
- B. Permit Space Access Request
- C. Confined Space Warning Sign
- D. Permit Space Warning Sign



Permit-Required Confined Space Decision Flow Chart





Permit Space Access Request

Facilities

Mat-Su Borough School District

3901 E. Bogard Road

Wasilla, AK 99654

P: (907) 864-2001 || F: (907) 864-2081

Confined Space Location/Description/ID Number:
Date:
Purpose of Entry:
Time In:
Permit Canceled Time:
Time Out:
Reason Permit Canceled:
Supervisor:
Authorized Duration of Entry:
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

Hazard Tested (Permissible Level)	Result	Test Start	Test 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:

Attachment B

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-Space Access Request Form from Entry Supervisor.

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 Space Access Request 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 MSA 4-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 4-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 space 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 Access Request 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 Entry Supervisor once the entrant has exited the confined space.

Step 11

The Permit Confined Space Access Request Form should be given to Entry Supervisor to file in the Confined Space Records.



CONFINED SPACE
DO NOT ENTER

Permit Space ID: _____





FOLLOW PERMIT SPACE ENTRY PROCEDURES

Permit Space ID: _____

