



# School District Permit-Required Confined Space Entry Program

# **Permit-Required Confined Space Entry Program**

## **Table of Contents:**

- I. Scope/Application**
- II. Employer Responsibilities**
- III. Additional Employer Responsibilities (For Entry into Permit-Required Confined Spaces)**
- IV. Employee Responsibilities (For Entry into Permit-Required Confined Spaces)**
- V. Disciplinary Action**
- VI. Permit-Required Confined Spaces Entry Procedures**
- VII. Outside Contractor Entry**
- VIII. Definitions**
- IX. Appendix 1 – Confined Space Entry Flow Chart**
- X. Appendix 2 – Permit-Required Confined Space Pre-Entry Checklist**

# Permit-Required Confined Space Entry Program

In accordance with the OSHA Confined Space Standard, 29 CFR 1910.146, the following permit-required confined space entry program has been developed. Pursuant to Section 101.055, Stats., the Wisconsin Department of Safety and Professional Services (DSPS) is required to adopt and enforce health and safety standards equal to those offered private employees as administered by OSHA. Definitions relating to the permit-required confined space program are found in this program.

Additional specific school district program information that is included as part of this plan can be found on the Health & Safety page of the school district safety website under Confined Spaces.

It is the policy of the school district to ensure the safety and health of its employees working in confined spaces by preventing employee injury, illness or death from confined space hazards through appropriate work procedures. The school district policy shall establish methods and procedures for controlling employee confined space activity while performing inspection, repair, maintenance, etc....

## I. Scope/Application

This policy applies to spaces that meet all 3 of the following criteria:

1. Are large enough and so configured that an employee can enter and perform work and,
2. Have a limited or restricted means for entry or exit and,
3. Are not designed for continuous employee occupancy.

AND the space 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.

## II. Employer Responsibilities

1. Evaluate work place for permit and non-permit confined spaces.
2. Develop a list of list of all confined spaces in the workplace.
3. Post signs at the entrances/exits of permit spaces.
4. Develop a written confined space program.
5. Train designated employees to enter spaces as outlined in this program.

6. Inform outside contractors of the district confined spaces
7. Re-evaluate non-permit confined spaces when there are changes in the use or configuration that might increase the hazards to entrants to reclassify it as a permit-required confined space, if necessary

### **III. Additional Employer Responsibilities (For Entry of Permit-Required Confined Spaces)**

1. Obtain a portable gas meter of atmospheric testing, which should at a minimum test for oxygen, carbon monoxide, hydrogen sulfide and flammable gases.
2. Train designated employees on non-permit required confined space entry and permit required alternate procedures entry, use of the portable gas meter, evaluation of confined spaces and basic first aid and adult CPR.
3. Train employees not to enter any permit-required confined space that does not meet alternate procedures.

### **IV. Employee Responsibilities (For Entry of Permit-Required Confined Spaces)**

1. Be able to recognize confined spaces.
2. Notify supervisor of confined spaces not properly labeled.
3. Know emergency contact procedures in case of emergency in confined space.
4. Calibrate the portable gas meter prior to air sampling.
5. Use the portable gas meter to sample the atmosphere of the space prior to entry.
6. Complete confined space pre-entry checklist to evaluate space.
7. Review emergency procedures.
8. Confined space entrant shall continuously monitor atmosphere during work.
9. Confined space entrant shall exit the space immediately if the portable gas meter signals an alarm or if requested by an outside attendant.
10. Aid the school district to inform outside contractors of the status and location of district confined spaces.

### **V. Disciplinary Action**

Failure to comply with this policy will result in disciplinary action for the employee as set forth in the school district policy.

### **VI. Permit-Required Confined Space Entry Procedures**

- A. General Information – All confined spaces will be designated as either non-permit required or

permit required spaces by the school district. Use of the confined space entry flow chart, attached at the end of this program, can aid in making this determination.

- B. Portable gas meter policy – In the event that an entry into confined spaces is needed, the confined space entrant must first contact the confined space program director to obtain the portable gas meter to test the atmosphere prior to entry.

NO ENTRY shall be made into confined spaces until a portable gas meter is obtained, entry checklists completed, and all entrants are properly trained.

C. Permit-Required Confined Space Entry Procedures

**This program authorizes entry into permit-required confined space utilizing alternate entry procedures ONLY. All designated entrants MUST follow mandatory pre-entry procedures prior to entry, which include the following six (6) items. If these requirements of 1910.146(c)(5)(i) cannot be met, entry is prohibited:**

1. The employer can demonstrate that the only hazard posed by the permit space is an actual or potential hazardous atmosphere;
2. The employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry;
3. The employer develops monitoring and inspection data that supports the demonstrations required by items #1 and #2 above;
4. The monitoring and inspection data as required in item #3 above must be obtained without entry into the space;
5. The determinations and supporting data required by items #1- #3 above are documented by the employer and are made available to each employee who enters the permit space; and
6. Any conditions making it unsafe to remove an entrance cover are eliminated before the cover is removed for entry.

1. Prior to Entry

- a. Know the hazards that may be faced during entry, including information on the mode, signs, or symptoms and consequences of the exposure, understand confined space program and review information with supervisor
- b. Ensure designated entrants have had proper training on confined space entry (including basic first aid and adult CPR)
- c. Review emergency procedures.
- d. Shut down and lock out all machinery/equipment in confined space if possible.
- e. Eliminate any potential hazards in or adjacent to space prior to accessing space.

- f. Calibrate confined space sampling meter.
  - g. Complete the Permit-Required Confined Space Pre-Entry Checklist.
  - h. Conduct sampling of atmosphere utilizing the confined space meter:
    - i. Oxygen (O<sub>2</sub>) shall be between 19.5% - 23.5%
    - ii. Carbon Monoxide (CO) shall be less than 35 ppm
    - iii. Lower Flammable Limit (LFL) shall be less than 10%
    - iv. Hydrogen Sulfide (H<sub>2</sub>S) shall be less than 10 ppm (if applicable)
  - j. Testing procedures:
    - i. Test stratified atmospheres in four foot increments and/or multiple locations.
    - ii. Testing rate shall be slowed to accommodate the speed of the meter.
  - k. If any atmospheric level is exceeded, DO NOT ENTER SPACE, this is a permit-required confined space that CANNOT be entered utilizing alternate entry procedures.
  - l. Evaluate the space for any other potential hazards.
  - m. No smoking shall be allowed within 10 feet of confined space.
2. Entry Procedures
- a. Continuously monitor atmosphere for entire time while working in confined space
  - b. Exit confined space immediately if:
    - i. The entrant recognizes any warning sign or symptoms of exposure to a dangerous situation.
    - ii. The entrant detects a prohibited condition.
    - iii. An evacuation alarm is activated.
    - iv. Outside attendant instructs entrant to evacuate.
3. Attendant Duties (Recommended – Not Required)
- a. Establish constant communication with entrant and alert entrant of the need to evacuate the confined space.
  - b. Have rescue procedures on hand and be prepared to implement.
  - c. Maintain accurate account of authorized entrants.

- d. Remain outside the permit space during entry operations until relieved by another attendant.
  - e. Summon rescue service if needed.
  - f. Warn unauthorized persons not to enter confined space.
  - g. Perform non-entry rescue procedures if specified.
  - h. Ensure authorized attendant has had basic first aid and Adult CPR training.
4. Documentation
- a. Retain all documentation in confined space entry program to include all Permit-Required Confined Space Pre-Entry Checklists.
  - b. Inform supervisor of all known or suspected hazards.
5. Emergency Response and Rescue Procedures (Recommended)
- a. Communicate, if possible, to entrants and advise them to exit space immediately.
  - b. Attendant shall not enter space to attempt rescue.
  - c. Initiate non-entry rescue retrieval if possible.
  - d. If non-entry rescue cannot be completed, call rescue service or 911.
  - e. Inform rescue service as follows:
    - i. Your Name
    - ii. Your Location
    - iii. Confined space emergency
    - iv. Number of occupants in confined space
    - v. Potential source or problem
    - vi. Time of last communication with entrant
  - f. Do not allow others to attempt rescue from space
  - g. At least annually, practice rescue procedures by means of simulated rescue operation in actual spaces or other spaces with similar size, configuration, and accessibility.

## **VII. Outside Contractor Entry**

When an employer arranges to have a contractor perform work that involves permit entry, the host employer shall:

1. Inform the contractor that the work place contains permit spaces and entry is allowed only through a program that meets regulatory requirements.
2. Appraise the contractor of hazards identified and the host employer's experience with the space.
3. Appraise the contractor of precautions or procedures that the employer has implemented for the protection of employees near the space or personnel working with the contractor.
4. For joint entry, coordinate entry.
5. Debrief the contractor regarding the program followed and hazards confronted.

### **VIII. Definitions**

**Acceptable Entry Conditions** – 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.

**Alternate Entry Procedures** – Procedures that can be used to enter a confined space that has the following characteristics:

1. The only hazard present is a potential hazardous atmosphere
2. It can be demonstrated that ventilation alone will maintain the space safe for entry
3. There is monitoring and inspection data that supports the statements above
4. The above information be obtained without entry
5. Entry to the space can be accessed safely
6. The entrance to the space can be properly guarded to prevent injury to entrants or persons adjacent to the space.
7. If any of these conditions are not met, entrance is not permitted

**Attendant** – A trained individual stationed outside one or more confined spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's entry program.

**Authorized Entrant** – A trained individual who is authorized by the employer to enter a confined space to perform work.

**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.

**Confined Space** – A space that:

1. Is large enough and so configured that an employee can enter and perform assigned work;
2. Has limited or restricted means for entry or exit, such as a tank, vessel, silo, storage bin, hopper, vault, pit or manhole; and
3. Is not designed for continuous employee 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** – 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** – 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** – 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)** – The written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in paragraph (f) of this section.

**Entry Supervisor** – The person, such as the employer, foreman or crew chief, responsible for determining if acceptable entry conditions are present at a confined space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry.

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 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.

**Full Body Harness** – A harness having a waist belt, shoulder straps, leg straps, and "D" ring or should ring attached no lower than the shoulder blades.

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

1. Flammable gas, vapor, or mist in excess of 10% of its lower explosive limit;
2. Airborne combustible dust at a concentration that meets or exceeds its lower explosive limit;  
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% or above 23.5%;
4. Atmospheric concentration of any substance for which a dose or a Permissible Exposure Limit (PEL) is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of Title 29 CFR Part 1910 and which could result in the employee exposure in excess of its dose or permissible exposure limit; or
5. Any other atmospheric condition that is immediately dangerous to life or health (IDLH).

Note: 4.: 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.

Note: 5.: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material 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** – 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** – 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 confined 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; 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** – 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.

**Lower Explosive Limit** – The lower limit of flammability of a gas or vapor at ordinary ambient temperatures expressed as a percentage of the gas or vapor in air by volume.

**Non-Permit Required Confined Space** – 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** – An atmosphere containing less than 19.5 percent oxygen by volume.

**Oxygen Enriched Atmosphere** – An atmosphere containing more than 23.5 percent oxygen by volume.

**Permit Required Confined Space** – A permit required space is a confined space that has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere (limits outside non-permit required confined space parameters).
2. Contains a material that has the potential for engulfment;
3. Has an internal configuration that could cause an authorized entrant to 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 hazards.

**Permit-required Confined Space Program (Permit Space Program)** – 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** – 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 a permit space that is not allowed by the permit during the period when entry is authorized.

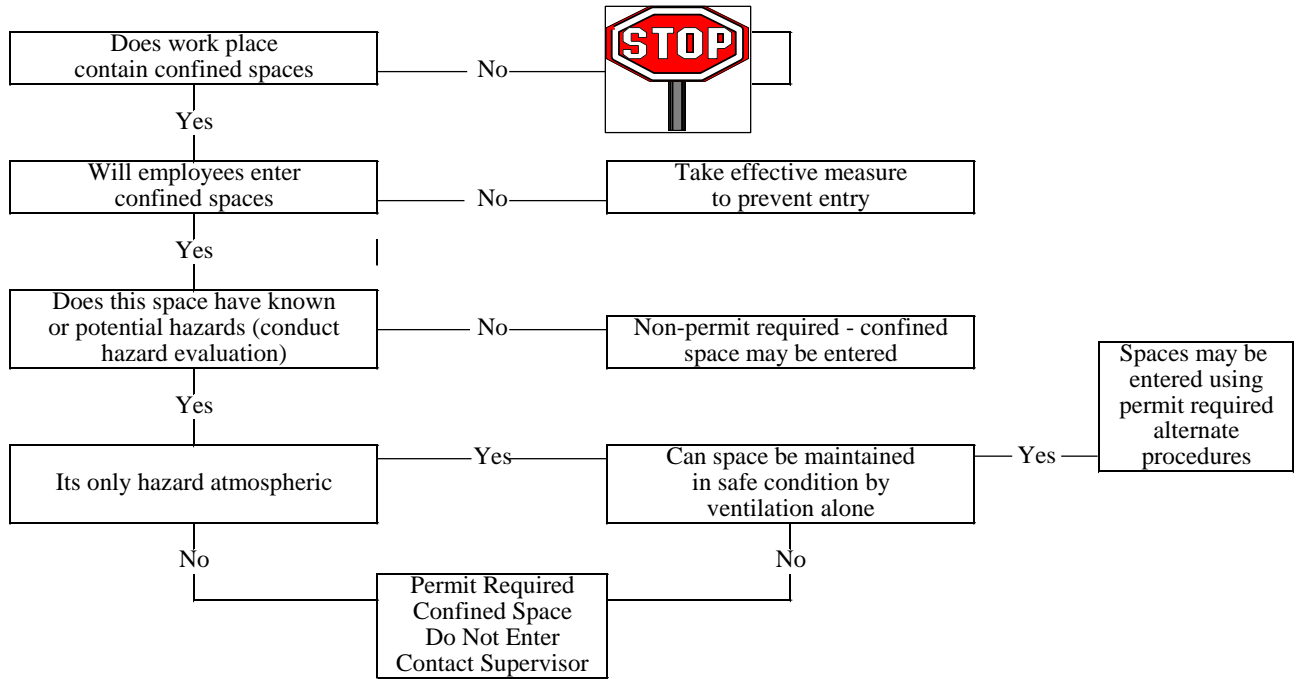
**Rescue Service** – The personnel designated and trained to rescue employees from confined spaces.

**Retrieval System** – 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** – 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.

## CONFINED SPACE ENTRY FLOW CHART



**PERMIT-REQUIRED CONFINED SPACE  
PRE-ENTRY CHECKLIST**

**BUILDING:** \_\_\_\_\_ **LOCATION:** \_\_\_\_\_

**DATE OF ENTRY:** \_\_\_\_\_ **TIME OF ENTRY:** \_\_\_\_\_

**TIME OF COMPLETION:** \_\_\_\_\_

**DESCRIPTION OF WORK TO BE DONE:** \_\_\_\_\_

**SPECIAL WORK PRECAUTIONS:** \_\_\_\_\_

**DESCRIPTION OF CONFINED SPACE:** \_\_\_\_\_

**VOLUME OF AIR IN SPACE (length x width x height)** \_\_\_\_\_ **Cubic Feet**

**SECTION I - HAZARD EVALUATION & ELIMINATION**

<b>Actual or Potential Hazard</b>	<b>Present</b>		<b>Describe Elimination of Hazard</b>
Engulfment (Liquid or Flowable Solid)	Yes	No	
Entrapment (Converging Walls/Floor)	Yes	No	
Asphyxiation (Lack of oxygen)	Yes	No	
Working Surface (Sloping/Slippery)	Yes	No	
Excessive Noise Levels	Yes	No	
Excessive Temperatures - Hot or Cold	Yes	No	
Sewer Leak/Biological Waste	Yes	No	
Potential for Entrant to Fall	Yes	No	
Potential for Objects to Fall on Entrant	Yes	No	
Moving Equipment	Yes	No	
Chemical Leaks/Exposure	Yes	No	
Pressurized Lines-Hydraulic (Water)	Yes	No	
Pressurized Lines-Pneumatic (Steam)	Yes	No	
Hazards From Work done by Entrant	Yes	No	
Other Hazards (List) -	Yes	No	

IF HAZARDS CAN BE ELIMINATED - PROCEED WITH EVALUATION IN SECTION II.

IF HAZARDS CANNOT BE ELIMINATED - STOP: NO ENTRY ALLOWED.

## PERMIT-REQUIRED CONFINED SPACE PRE-ENTRY CHECKLIST

### SECTION II - ATMOSPHERIC EVALUATION

Is there an actual or potential Hazardous Atmospheric (Lack of Oxygen, Flammables, Toxics)?

Yes	No
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IF "NO" - ENTRY ALLOWED WITHOUT SPECIAL PRECAUTIONS (Sign as Entrant on Page 2)

IF "YES" - PROCEED WITH EVALUATION IN SECTION III

### SECTION III - ALTERNATE PROCEDURES EVALUATION

ANSWER ALL QUESTIONS		
1. Is the only uncontrolled hazard in the space an actual or potential hazardous atmosphere?	Yes	No
2. Can it be demonstrated that continuous forced-air ventilation alone will maintain the space safe for entry?	Yes	No
3. Is there monitoring and inspection data that supports questions 1 and 2?	Yes	No
4. Was the above information be obtained without entry into the space?	Yes	No
5. Is the monitoring and inspection data available to all employees?	Yes	No
6. Can entry to the space be accessed safely (removal of cover)?	Yes	No
7. Can the entrance be properly guarded to prevent injury to entrants or persons adjacent to space?	Yes	No
8. Does entrant have alternate procedure training as well as CPR/First Aid training?	Yes	No
9. Did you calibrate the confined space meter?	Yes	No

**If all answers above are "YES" proceed with atmospheric testing. If any answer above is "NO" - NO ENTRY IS ALLOWED**

Atmospheric Check:	CHECK 1	CHECK 2	CHECK 3	
O <sub>2</sub> (19.5-23.5)				NOTE: Make sure to
LEL (0-10%)				check many different
H <sub>2</sub> S (0-10 ppm)				vertical or horizontal
CO (0-35 ppm)				locations (as needed)
Other				for this section.

10. Are all atmospheric readings, obtained from the confined space meter, within acceptable ranges?

Yes	No
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If all answers above are "YES" proceed with alternate procedures entry. If any answer above is "NO" - NO ENTRY IS ALLOWED.

If at any time, atmosphere conditions change or any other hazard occurs, the entrant must immediately exit the space.

**I HAVE INSPECTED AND VERIFIED EACH REQUIREMENT ON THIS CHECKLIST AND TO THE BEST OF MY KNOWLEDGE, STATE THAT THIS WORK CAN BE DONE SAFELY AND IN COMPLIANCE WITH THE RULES.**

Entrant #1: \_\_\_\_\_  
Name (Print) Signature

Entrant #2: \_\_\_\_\_  
Name (Print) Signature

Entrant #3: \_\_\_\_\_  
Name (Print) Signature

Entrant: #4 \_\_\_\_\_  
Name (Print) Signature

**POST AT SITE DURING ENTRY, FILE IN PLAN WHEN COMPLETED**