



# DuPage County Environmental, Safety, Health & Property Loss Control Program

## DPC Confined Space Entry Policy for Weatherization Division

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### 1.0 Purpose:

The purpose of this policy is twofold: First to provide DuPage County Community Services Management, Weatherization staff explaining our responsibility to contractors with information concerning the hazards and requirements for the safe entry into confined spaces that may be encountered during weatherization work. When contractors are used for work within a Confined Space we are considered the *Host Employer*. The *Host Employer* is responsible to provide the *Controlling Contractor* information we have regarding the existence of a Confined Space they have been contracted to work in. This is easiest done by including in all Bid Specs for crawl space and attic work.

Second and more importantly this policy is to establish minimum safety policy for Weatherization staff when entering a Confined Space.

### 2.0 Policy:

**Note:** All confined spaces shall be considered permit-required confined spaces until the pre-entry procedure in this policy demonstrates otherwise. (See *Confined Space Policy for Public Works which covers entry into Vertical spaces & boilers*).

This policy provides requirements for the evaluation for safe entry into Horizontal Confined Spaces in residential home attics and crawl spaces likely to be encountered during Weatherization Home Assessments. **If vermiculite insulation is found County staff must follow the Il Home Weatherization Assistance Program guidelines.**

Horizontal confined Spaces are not to be entered by County employees other than to perform Weatherization **Energy Audits** and Inspections of home attics and crawl spaces.

Work required in horizontal confined spaces to improve the homes energy savings will need to be performed by a vendor following **ILOSHA/OSHA** Confined Space requirements of CFR 1926.1201 AA Subpart.

**It is up to a trained Weatherization staff member “authorized entrant” to determine if it is safe to enter a Confined Space. If an Authorized Entrant does not feel the space is safe to enter; the inspection should be conducted as best as possible from a secure ladder / stair looking into the attic / crawl space.**

Weatherization staff shall not enter a crawl space that has standing water due to potential of electrocution.

Weatherization staff shall never enter a confined space while a contractor is working in it, however, they may enter to perform work in progress inspections with a contractor supervisor or crew leader. To do this Weatherization staff must request the contractor cease work in the space before they can enter and until the progress inspection is completed. Weatherization staff must test atmosphere to assure safe entry is possible.

Whenever in a confined space contact with exposed wiring must be avoided.



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Any employee required to **enter or perform a pre-check of** a confined space shall have successfully completed, minimum classroom training on Confined Space offered by the County and is considered “an Authorized Entrant” and/or “Authorized Attendant”.

An employee required to enter a permit required confined space must wear a half piece respirator with filter for asbestos.

An employee required to wear a respirator must have an annual physical by a Medical doctor. (*See Respirator policy*)

An employee required to wear a respirator must have an annual fit test by County staff.

Confined Space Entry Permit shall be kept at the job site for the duration of the Inspection. If circumstances i.e. job continues to next day, the permit can be suspended.

DPC adheres to non-entry rescues by employees. Entry rescues will be the performed ONLY by fully trained Confined Space Entry Fire service personnel.

Smoking is not permitted within a home being inspected.

Heat Stress while working in a confined space is a concern.

- If in the heat >2 hours and involved in moderate work activities, drink 1 cup (8 oz.) of water every 15–20 minutes. Liquid temperature should be < 59 F.
- During prolonged sweating lasting several hours, drink sports drinks containing balanced electrolytes.
- Avoid alcohol and drinks with high caffeine or sugar.
- Rest periods when working in the heat should be should be spent in a cool place such as an air conditioned room or vehicle.

The following information and procedure on "Confined Space Entry" is intended as a guide and does not relieve the concerned personnel or contractor of their responsibility for a safe entry. (*See “Excavations with trenching and shoring exposures” Procedure*).

### 3.0 General Requirements:

3.3 When DPC arranges to have a vendor perform work that may have permit or non-permit confined space entry, DPC shall:

3.3.1 Inform the *Controlling Contractor* that the work place may contain permit or non-permit confined spaces and that entry is allowed only through compliance *per OSHA CFR 1926.1201 AA Subpart*.

3.3.2 **Note:** At no time should DPC supervise the contractors’ employees. The contractor is ultimately responsible for the safety of their employees and or their sub-contractors.



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3.3.3 **Note:** At no time shall the contractor be permitted to utilize DPC equipment or tools.

### 4.0 Definitions

- 4.1 **“Authorized Entrant/Attendant”** Any DPC employee required to or permitted to pre-check or enter an enclosed/confined space shall have successfully completed training on Confined Space offered by the County.
- 4.2 A **“Bump test”** verifies calibration by exposing the instrument to a known concentration of test gas. The instrument reading is compared to the actual quantity of gas present (as indicated on the cylinder). *See exhibit 3*
- 4.3 **Calibration** refers to an instrument’s measuring accuracy relative to a known concentration of gas. *See exhibit 3*
- 4.4 **“Competent person”** means one who is capable of identifying existing and predictable hazards in the surroundings or work conditions, which are unsanitary, hazardous, or dangerous to employees and who has the authorization to take prompt corrective measures to eliminate them.
- 4.5 **Confined Space** means any space that has limited or restricted means of entry/exit; is large enough for a person to enter and perform work; is not designed for continuous occupancy.
- 4.6 **Controlling Contractor** is the firm DPC has contracted with. The Controlling contractor is responsible for assuring sub-contractors who may be working in the space follow their own Confined Space program.
- 4.7 **Authorized Entrant means** the employee responsible for evaluating and authorizing confined space entry operations and for signing permits for entries into permit-required confined spaces. This employee has the authority to terminate all confined space entries if conditions in the confined space change or present an increased hazard to the entrants. In most situations, the DuPage County Weatherization staff member assigned to the project will perform the duties as an Authorized Entrant.
- 4.8 **Hazardous Atmosphere** means the atmosphere within a confined space that contains less than 19.5% or more than 23.5 % oxygen, presence of flammable gases or vapors **not more than** 10% of the **(LFL)** lower flammable limit, or the presence of toxic gases, vapors, dusts or mists in excess of the materials’ permissible exposure limits.  
Examples of toxins commonly found in confined spaces include vapors or gases that may be present in laboratories within buildings, carbon monoxide (CO), Hydrogen Sulfide (H<sub>2</sub>S) > 10 ppm, and airborne combustible dust that exceeds its LFL (such concentration may be approximated as a condition in which the combustible dust obscures vision at a distance of 5 feet or less.



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- 4.9 Hot Work** any operations that create heat, sparks or hot slag having the potential to ignite flammable vapors or combustible material. Operations such as welding, brazing, torch cutting, grinding and soldering.
- 4.10 Host Employer** When we contract work to be done in a Confined Space we become the Host Employer.
- 4.11 Isolation/LOTO** means the process used to reduce or eliminate hazards within a confined space. Also referred to as Lock-Out & Tag-Out, hazards such as the flow of water can be eliminated by placement of plugs, closing of valves, blanking of piping, etc. Activation of pumps and other mechanical equipment that can contribute to or increase the hazards within a space, can be protected through the opening of an electrical switch or other isolating method such as removal of fuses or electrical leads to the motor. (See LOTO policy)
- 4.12 Non-Permit Required Confined Space:** A space that is large enough and so configured that an employee can bodily enter and perform assigned work;  
*and* is not intended for continuous occupancy;  
*and* has limited or restricted means for entry or exit (for example attics, crawl spaces);  
*and* does not contain nor has the potential to contain an atmospheric hazard or any hazard capable of causing death or serious physical harm.
- 4.13 Permit-Required Confined Space:** A space that has one or more of the following:
- a space that has known potential to contain, a hazardous atmosphere;
  - and/or* has the potential for engulfing or entrapping the entrant;
  - and/or* has an internal configuration that could trap or asphyxiate the entrant. *See Exhibit 2 Permit*
- 4.14 Personnel Protective Equipment (PPE)** refers to protective clothing, helmets, goggles, etc. designed to protect the wearer's body from injury by blunt impacts, chemicals, dusts, and infection, for job-related occupational safety and health purposes.
- 4.15 Qualified** means one who, by possession of a recognized degree, certificate, or professional long standing, or by extensive knowledge, training and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, or the project.
- 5.0 Confined Space Entry Evaluation**
- 5.1** Confined spaces Weatherization is exposed when conducting an initial inspection are two types of confined spaces: attics are generally a non-permit confined space whereas a crawl space can be a permit required confined space depending on the hazards present. *See exhibit 1 Inspection Record*
- 5.2** These spaces typically have limited means of entry and exit, are large enough to enter, and are not designed for continuous employee occupancy. Therefore, these spaces described in 5.1 meet the definition of a confined space.



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- 5.3 Once a contractor begins work in either space the space may become a Permit Required space due to contractor use of flammable spray on foam or other hazardous material the contractor brings into the space to complete their work.

#### 6.0 Non-Permit Confined Spaces

Evaluation and subsequent determination of a non-permit confined space may be based on the knowledge of the space concerning the potential that exists for a hazardous atmosphere, or other hazards that may be present in the space.

- 6.1 A determination that a non-permit confined crawl space exists **MUST** be based upon atmospheric testing conducted using a properly calibrated gas detector and the verification that no other obvious hazards exist within the confined space.

#### 7.0 Safe Removal of Space Covers

Employees engaged in the removal of any covers to the confined space shall use caution removing the cover to avoid damage to the cover and surrounding area. PPE in section 9 should be worn prior to opening the cover to the space.

#### 7.1 Posting Signs at Entry to Crawl Space

If crawl space entry is via trap door in a floor to protect the public from falling through the opening a Caution Sign must be placed before the opening.

#### 7.4 Atmospheric Testing

- 7.4.1 Only employees trained in the use of atmospheric testing instrumentation shall test the atmosphere of the confined space prior to entry to determine the presence of a hazardous atmosphere. Potential hazardous atmosphere within the confined space shall be tested for:

7.4.1.1 Oxygen not less than 19.5% nor more than 23.5%

7.4.1.2 Flammable Gas or Vapor (methane / pentane) not more than 10% of the LEL

7.4.1.3 Toxic Materials (hydrogen sulfide) not more than 10 ppm

7.4.1.4 Carbon Monoxide not more than 10 ppm

- 7.4.2 Instrumentation should be "Bump Tested" by a properly trained person prior to use each day, or according to the manufacturer's instructions.

- 7.4.3 Readings on most meters vary and fluctuate slightly, but in no case should entry be permitted if instrumentation indicates that a hazardous atmosphere may be present.

- 7.4.4 The atmosphere within the space must be continuously monitored



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throughout the entry.

**7.4.5** If a hazardous atmosphere is determined when in the space the employee must exit immediately and not re-enter until the space can be cleared of the hazardous atmosphere.

**7.4.6** Weatherization Manager is responsible for maintenance of the testing instrumentation including calibration per manufacturer's instructions.

**7.4.7** Atmospheric testing must always be done prior to entering a space for a contractor progress inspection.

### **8.0 Authorized Entrants Duties:**

- a. Must be capable of self-rescue.
- b. Know the hazards, including information on the means of exposure such as inhalation or dermal absorption, signs and symptoms and consequences of the exposure.
- c. Know how to use appropriate PPE

### **8.1 Exit from the space as soon as possible when:**

- a) He or she recognizes the warning signs or symptoms of exposure
- b) A prohibited condition exists
- c) An automatic alarm is activated

### **9.0 Personal Protective Equipment:**

- ✓ At minimum personnel who enter a confined space should wear Tyvek disposable coveralls with hood.
- ✓ Disposable boot / shoe covers.
- ✓ A bump hat must be worn when the entrant is subjected to striking their head on hanging pipes/conduits/rafters etc.
- ✓ Safety Goggles
- ✓ Personal Carbon Monoxide detector
- ✓ Half mask respirator with cartridge capturing asbestos fibers
- ✓ Leather gloves

### **10.0 Safety Equipment:**

- ✓ Telescopic Ladder with Safety Feet.
- ✓ Step Stool with Safety Feet (rubber)
- ✓ Non-contact Voltage Tester
- ✓ Receptacle Tester
- ✓ LED Flashlight
- ✓ Folding Caution Sign
- ✓ First Aid kit
- ✓ Cell Phone capable of calling 911 Emergency while in a Confined Space.
- ✓ Gas Detector