

 CITY OF TUCSON	City of Tucson Central Safety Services Number: S-005 Subject:	Page 1 of 22
		Effective Date: October 1, 1995
	Confined Space Program	Reviewed/ Revised: January 1, 2013

1.0 PURPOSE

The purpose of this program is to set forth uniform policies and procedures concerning tasks requiring work in confined spaces for the City of Tucson employees. All City of Tucson employees involved in confined space entries will follow these policies and procedures.

2.0 SCOPE

The guidelines in this program are designed to ensure the safety and health of employees required to work in and around confined spaces.

The policies and procedures contained in this section are intended to assist in identifying and complying with OSHA Safety Standards. In all cases where there is a difference between specific OSHA standards and the Confined Space policies set forth in this Program, the stricter of the two shall apply.

3.0 DEFINITIONS

Acceptable entry condition: The condition 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: Acceptable Entry Condition where the employer can demonstrate that the only hazard posed by the permit space is an actual or potential hazardous atmosphere, *and* the employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry, *and* the employer develops monitoring and inspection data that supports the acceptable entry condition.

Assessment: A physical review of the conditions and hazards that exist or may potentially exist in the Confined Space.

Attendant: An individual stationed outside a permit space who monitors the authorized entrants and who performs specific duties assigned in the confined space program.

Authorized entrants: The employees who are authorized by training to enter a confined space.

Blanking or blinding: The absolute closure of a pipe, line, or duct by the fastening of a solid plate that completely covers the bore and that is capable of

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with-standing the maximum pressure of the pipe, line or duct with no leakage beyond the plate.

Confined Space – See Permit Required Confined Space.

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 confined space that could endanger entrants.

Engulfment: The surrounding and effective capture of a person by 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 confined 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: The written or printed document that is provided by the employer to allow and control entry into a permit space.

Entry Procedure: The written procedure that allows for an alternate entry of the Confined Space.

Entry supervisor: The person responsible for determining if acceptable entry conditions are present in a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this program. This person need not be a member of supervision.

Flammable gases and vapors: A flammable gas or vapor is a substance that when in a concentration between its upper and lower explosive limits can flash provided a source of ignition.

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:

- Atmospheric oxygen concentration below 19.5 % or above 23.5 %.
- Flammable gas, vapor, or mist in excess of 10 % of its lower flammable limit (LFL) or lower explosive limit (LEL).
- Airborne combustible dust at a concentration that meets or exceeds its LFL.
- Atmospheric concentration of any substance that exceeds: the OSHA permissible exposure limit (PEL), short term exposure limit (STEL) or ceiling; the ACGIH threshold limit value (TLV); the NIOSH

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recommended exposure limit (REL); or other recognized exposure limit.

- Any other atmospheric condition that is immediately dangerous to life or health (IDLH).

Hot work permit: Means the employer's written authorization to perform operations 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.

Inerting: The displacement of the atmosphere in a space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible, but may not contain a percentage of oxygen required to sustain life.

Isolation: The process by which a confined 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 / 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.

Lockout/Tagout: A procedure utilized to control for the unexpected release of hazardous energy.

Non-permit 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 that contains less than 19.5 % oxygen.

Oxygen enriched atmosphere: An atmosphere that contains greater than 23.5 % oxygen.

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

- Contains or has a potential to contain a hazardous atmosphere;
- Contains 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 a smaller cross-section; or

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- Contains **any** other recognized serious safety or health hazard that cannot be controlled or eliminated prior to entry.

Permit-required confined space program: The 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 written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited condition: Is 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 to rescue employees from permit spaces.

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

Testing: Means the process in which the potential hazard that may confront an entrant of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

Toxic Air Contaminants: Are airborne substances that have the ability to cause serious health effects in exposed individuals. These substances may be gases, vapors or particulates.

4.0 RESPONSIBILITY

A. Department

1. The Director of each department where employees are required to enter confined spaces shall be responsible for the following:
 - a. Assigning an individual responsible (Competent Person) for implementation of the Confined Space Program in their department. This individual shall be afforded adequate time to implement the requirements of this program.
 - b. The enforcement of compliance with this program, including appropriate disciplinary action for any City employee failing to follow this policy and program.

B. Competent Person

1. Each department/division with Confined Spaces shall designate an individual to be responsible for the general oversight of the Confined Space Program. Competent Person in each department/division will be responsible for and facilitate the following:
 - a. Administer all aspects of this program.

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- b. Participate with Central Safety Services in periodic evaluation of this program.
- c. Coordinate, through Central Safety Services, appropriate training for employees required to work in confined spaces.
- d. Perform and document periodic audits of confined space entries.
- e. Maintain confined space entry permits for one year.
- f. Provide copies of confined space entry permits to Central Safety Services within 10 days after a permit has expired.

C. Supervisors

1. Lead personnel, such as Supervisors involved in work in or around confined spaces, shall be responsible for the enforcement of this program including employee compliance and for providing time for employees to obtain confined space training and, if appropriate, respirator training, lockout/tagout training, respirator fit-testing, and medical exams.
2. The Supervisor shall be familiar with the requirements of the confined space permit system and the duties of authorized entrants, attendants, and entry supervisors The Supervisor shall have knowledge of atmospheric testing and rescue and emergency procedures.

D. Employees

1. City of Tucson employees required to work in or around confined spaces shall be responsible for following the policies and procedures outlined in this program including:
 - a. The requirements of the City of Tucson permit system;
 - b. The duties of authorized entrants, attendants, and entry supervisors;
 - c. Knowledge of atmospheric testing procedures; and,
 - d. Knowledge of rescue and emergency procedures.

E. Central Safety Services

1. Central Safety Services shall be responsible for the following:
 - a. Conduct and document initial assessments of all confined spaces in the City of Tucson;
 - b. Maintain the assessments of the confined spaces and make the assessments available to all employees trained to enter confined spaces;
 - c. Manage a permit process in where a Hazard Assessment is conducted identifying existing or potential hazards, and documenting those hazards for individual confined space permits to be reviewed by the Entry Supervisor;
 - d. Evaluating this program annually;
 - e. Coordinating training for all employees required to enter confined spaces;
 - f. Evaluating non-routine permit-required confined space operations;
 - g. Reviewing and approving department-specific operating procedures.

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- h. Reviewing and approving entry permits supplied to a department by a contractor working on city property.

5.0 EDUCATION AND TRAINING

A. The City of Tucson shall provide training so that all employees required to work in and around confined spaces acquire the understanding, knowledge, and skills necessary for the safe performance of their assigned duties.

B. Training shall be provided:

1. On the Confined Space Assessment Surveys;
2. On the Entry Permit, Alternate Entry Procedures and Non-permit Entry Procedures;
3. Before an employee is first assigned confined space duties;
4. When there is a change in assigned duties;
5. Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;
6. Whenever the City of Tucson has reason to believe either that there are deviations from the permit space entry procedures required by this program or that there are inadequacies in the employee's knowledge or use of these procedures.

C. The training shall establish employee proficiency in the duties required for permit-required confined space entry operations and shall introduce new or revised procedures, as necessary, for compliance with this program.

D. The City of Tucson shall certify that employee training has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

6.0 GENERAL

A. Identification of Permit-Required Confined Spaces

1. Central Safety shall evaluate each workplace to determine if any spaces are permit-required confined spaces using the Confined Space Decision Flow Chart and Confined Space Survey in Appendix A and B.
2. If any spaces are permit-required, then that Department shall inform their exposed employees (i.e. those employees that may be required to enter the space) of the existence and location of and the danger posed by the permit spaces. Employee notification shall be accomplished by posting danger signs on the space entryway.

B. Signage

1. Departments shall post signage on all identified confined spaces. The signage shall read:

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Permit Required



Alternate Entry



Non-permit



C. Permit System

1. A Confined Space Entry Permit is required when entering Permit-required spaces. Before entry is authorized, the measures required for safe entry shall be documented by preparing an entry permit. Confined Space Entry Permits customized to the location are available on the Central Safety Services webpage:
2. <http://drupal.ci.tucson.az.us/confined-space-assessments-and-blank-permits>
2. Before entry begins, the entry supervisor identified on the permit shall perform the on-site hazard assessment, complete the permit and sign the entry permit to authorize a confined space entry.

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3. The completed permit shall be made available at the time of entry to all authorized entrants, by posting it at the entrance of the space, so that entrants can confirm that pre-entry assessment and air monitoring has been completed, where required.
4. The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit. The duration of a permit shall not exceed ten (10) hours or one work shift.
5. The entry supervisor shall terminate entry and cancel the entry permit when:
 - a) The entry operations covered by the entry permit have been completed; or,
 - b) A condition that is not allowed under the entry permit arises in or near the permit space.
 - c) At the conclusion of either ten (10) hours or one work shift.
6. Each department shall retain each canceled entry permit for at least one (1) year to facilitate the review of the permit-required confined space program. Copies of all canceled permits shall be forwarded to Central Safety Services within 10 days of a canceled permit. Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

D. Alternate Entry Conditions

1. Departments that have employees who are required to enter permit-required confined spaces may use alternate procedures for entry provided that the following conditions are met:
 - a. Demonstrate that the only hazard posed by the permit space is an actual or potential hazardous atmosphere.
 - b. Demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry.
 - c. Air monitoring and inspection data that supports items A and B.
 - d. If initial entry into the permit space is necessary to obtain the data required for items A and B, then the entry must include all of the requirements for a permit-required confined space entry including the provision for rescue and emergency services.
 - e. Provide documentation of items A, B, and C to each employee who enters the permit space under the alternate method.
2. Departments shall be required to follow the Hazard Assessment and Entry Procedures associated with all Alternate Entry Confined Space Locations. Entry procedures are referenced on the Central Safety Services webpage <http://drupal.ci.tucson.az.us/confined-space-assessments-and-blank-permits>

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E. Reclassification of Confined Space

1. A space classified by the City of Tucson as a permit-required confined space may be reclassified by an Entry Supervisor as a non-permit confined space under carefully documented conditions. Note that *control* of a potential hazard or condition, such as Lockout/Tagout, may not meet the criteria for elimination of a hazard.
 - a. If the permit space poses no actual or potential atmospheric hazards *and* if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.
 - b. If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed under the permit-required confined space requirements. If during testing and inspection prior to entry demonstrate that the hazards within the permit space have been eliminated, that permit space may be reclassified as a non-permit required confined space for as long as the hazards remain eliminated.
2. **NOTE: The use of forced air ventilation to *control* atmospheric hazards does not constitute the elimination of the hazard.**
3. The Entry Supervisor shall document the basis for determining that all hazards in a permit space have been eliminated, through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification must be made available to each employee entering the space.
4. If hazards arise within a permit space that has been declassified to a non-permit space, then each employee shall immediately exit the space. The Entry Supervisor shall reevaluate the space and determine whether it must be reclassified as a permit space.
5. Departments shall be required to follow the Hazard Assessment and Entry Procedures associated with all Non-permit Confined Space Locations. Entry procedures are referenced on the Central Safety Services webpage:
<http://drupal.ci.tucson.az.us/confined-space-assessments-and-blank-permits>

F. Changing Conditions

1. When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, the Entry Supervisor shall re-evaluate that space and, if necessary, reclassify it as a permit-required confined space.

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G. Conditions for Entry

1. Any condition making it unsafe to remove an entrance cover shall be eliminated before the cover is removed. When entry covers are removed, the opening shall be immediately guarded by a railing or temporary cover.
2. Before an employee enters the space, the internal atmosphere shall be tested with a calibrated direct reading instrument for the following conditions:
 - a. Oxygen content.
 - b. Flammable gases and vapors.
 - c. Potential toxic air contaminants.

H. Duties of Entry Supervisors

1. Entry Supervisor shall know and understand the hazards that may be faced during entry, including information on the signs or symptoms, and consequences of exposure to suspected hazardous atmospheres.
2. The Entry Supervisor shall verify and document that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
3. Entry Supervisor may terminate the entry and cancel the entry permit at any time and shall terminate the entry upon exit of all authorized entrants and cancel the entry permit, as required by the permit system.
4. Where required by rescue plan the Entry Supervisor shall verify that equipment for non-entry rescue (tripod) is on-site, is assembled and functioning and that employee rescue personnel are trained in first aid and Cardio-pulmonary Resuscitation (CPR) and are on site and that the means for summoning additional technical rescue personnel (emergency services) are operable.
5. The Entry Supervisor has authority to remove any individual who enters or who attempt to enter the permit space during operations.
6. The Entry Supervisor will determine, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space which entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

I. Duties of Attendants

1. The attendants shall know and understand the hazards that may be faced during entry by Authorized Entrants, and shall be trained by the competent person on the information on the mode, signs or symptoms, and consequences of exposure to suspected hazardous atmospheres.

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2. The Attendant shall continuously maintains an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants (e.g., entrance roster) accurately identifies who is in the permit space.
3. The attendant shall remain outside the permit space during entry operations until relieved by another attendant
4. Attendants will only be allowed to enter the permit space for rescue if they have been trained and equipped for rescue operations as required in this program, and if they have been relieved by another attendant.
5. The Attendant shall establish a means to communicate with authorized entrants **continuously** to monitor entrant status and to alert entrants of the need to evacuate the space and shall monitor activities inside and outside of the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:
 - a. If the attendant detects a prohibited condition;
 - b. If the attendant detects the behavioral effects of exposure to atmospheric hazards in an authorized entrant;
 - c. If the attendant detects an alarm signaled by an Authorized Entrant that signifies and change of condition or other emergency;
 - d. If the attendant detects a situation outside the space that could endanger the authorized entrants; or
 - e. If the attendant cannot effectively and safely perform all the duties required by this section.
6. The Attendant shall summon rescue and other emergency services immediately upon determining that Authorized Entrant(s) may need assistance to escape from the permit space. Notification for assistance shall occur prior to any rescue attempt performed by Attendant or Authorized Entrants.
7. The attendant shall make available a copy of the Confined Space Entry Permit, Material Safety Data Sheets (MSDS), and any other pertinent information that will facilitate the rescue. The information shall be given to the first arriving Emergency Services Personnel.

J. Duties of Authorized Entrants

1. All Authorized Entrants shall know and understand the hazards or potential hazards that may be faced during entry and shall be trained on the signs or symptoms, and consequences of the exposure to suspected hazardous atmospheres.
2. Authorized Entrant(s) shall know and be trained to utilize all equipment required for confined space operations and be able to communicate with the attendant, as necessary, to enable the attendant to monitor entrant

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status and to enable the attendant to alert entrants of the need to evacuate the space in the event of an emergency or changing conditions.

3. The Authorized Entrant(s) shall alert the Attendant whenever the entrant recognizes any warning signs or symptoms of exposure to a dangerous situation or the Entrant detects a prohibited condition.
4. The Authorized Entrant(s) shall exit from the permit space as quickly as possible whenever an order to evacuate is given by the Attendant or the Entry Supervisor. The Entrant shall be able to recognize any warning sign or symptom of exposure to a dangerous situation and detect a prohibited condition and respond an evacuation alarm.

K. Work Practice

1. The Entry Supervisor shall evaluate and consider all work practices that will be performed during the Confined Space Entry to avoid introduction of an additional hazard(s) and to determine if a work practice will change or contribute to a change in the atmospheric conditions of the confined space.

L. Rescue and Emergency Services

1. The City of Tucson shall ensure that each member of the employee rescue team is provided with, and is trained to use properly, the personal protective equipment and non-entry rescue equipment necessary for making rescues from permit spaces. Notification of/to Emergency Services may not meet the OSHA Standard for Rescue and/or Retrieval of employees entering a confined space.
2. Each member of the rescue service shall be trained to perform the assigned rescue duties. Each member of the rescue service shall also receive the training required of authorized entrants.
3. Each member of the rescue team shall practice making permit space rescues at least once every 12 months, by means of a simulated rescue operation in which they remove dummies, mannequins, or actual persons from the actual permit spaces or from representative permit spaces. Representative permit spaces shall, with respect to opening size, configuration, and accessibility, simulate the types of permit space from which rescue is performed.
4. Each member of the rescue team shall be trained in basic first-aid and in Cardio-pulmonary Resuscitation (CPR). At least one member of the rescue service holding current certification in first aid and CPR shall be available.
5. To facilitate non-entry rescue, retrieval systems or methods shall 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.

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6. Retrieval Systems shall meet the following requirements:

- a. Each authorized entrant shall use a full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, or above the entrant's head. Wristlets may be used in lieu of the full body harness if it can be demonstrated that the use of the full body harness is unfeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.
- b. The other end of the retrieval line shall be attached to a mechanical device (NON-MOTORIZED) or fixed point outside the permit space in such a manner that rescue can begin as soon as the Attendant becomes aware that rescue is necessary. A non-entry mechanical rescue device (tripod) is **mandatory** at permit required confined spaces vertical entries greater than 5 feet deep.
- c. If an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) or other similar written information is required to be kept at the worksite, that MSDS or written information shall be made available to the medical facility treating the exposed entrant.

M. Ventilation

1. Continuous forced air ventilation shall be used, as follows:
 - a. Employees may not enter the space until forced air ventilation is documented as having maintained acceptable entry level conditions for any hazardous atmosphere;
 - b. The forced air ventilation shall be so directed as to ventilate the immediate areas where employees are present and shall continue until all employees have left the space; and,
 - c. The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space.
2. Ventilation fans and hoses shall be deployed in such a manner to reduce bends in the hose or ducting. All hoses shall be maintained on a level surface whenever possible. Once continuous ventilation ductwork has been placed and is documented to be effective in controlling the atmospheric conditions, ductwork shall be protected by barricades or other means, to prevent compression, collapsing, or kinking of the hose.
3. Mechanical ventilation shall be continuously monitored by a Competent Person
4. The atmosphere within the space shall be tested at pre-determined intervals, or continuously to ensure that the forced air ventilation is preventing the accumulation of a hazardous atmosphere. If a hazardous

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atmosphere is detected during an entry where forced air ventilation is utilized (Appendix D), the following shall be mandated:

- a. Each employee shall leave the space immediately;
 - b. The space shall be evaluated to determine how the hazardous atmosphere developed, and
 - c. Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.
5. Passive ventilation techniques shall be verified by atmospheric testing determines acceptable entry conditions, prior to confined space entry.
 6. Mechanical venting or exhausting techniques shall be verified by atmospheric testing to determine acceptable entry conditions, prior to confined space entry.

J. Contractors

1. Department Responsibilities

- A. When the City of Tucson arranges to have contractors perform work that involves permit space entry, the City of Tucson Department responsible for the contract shall:
 1. Inform the contractor, prior to bid, that the workplace contains permit spaces and that entry is allowed only through compliance with a permit-required confined space program meeting the requirements of 29 CFR 1910.146.
 2. Apprise the contractor of the elements, including the hazards identified and the department's experience with the space, that make the space in question a permit space.
 3. Apprise the contractor of the City of Tucson Confined Space Program.
 4. Coordinate entry operations with contractors when both the department's personnel and contractor personnel will be working in or near permit spaces.
 5. Debrief the contractor at the conclusion of entry operations regarding any hazards confronted or created during entry operations.

2. Contractor Responsibilities

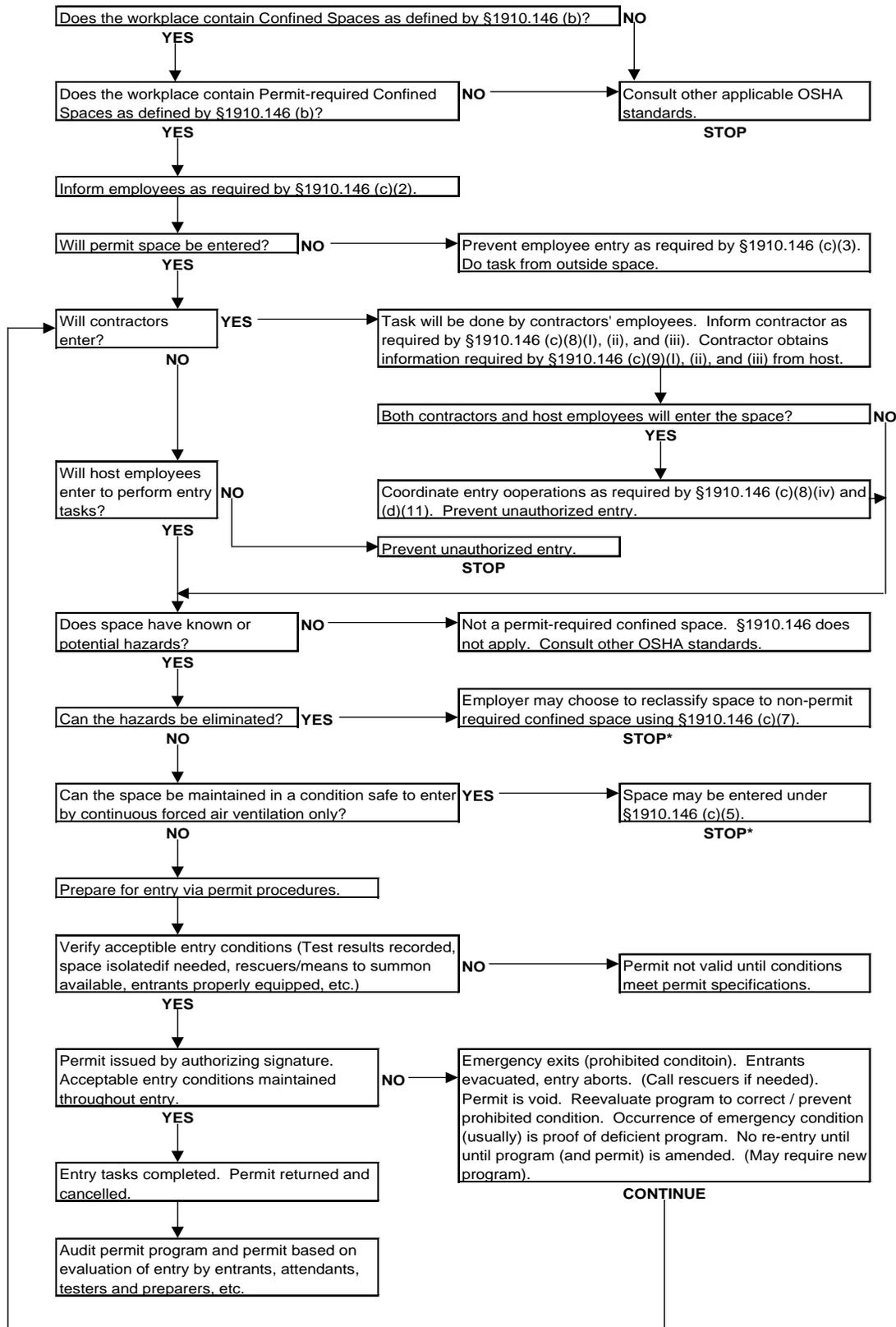
- A. Any contractor retained by the department to perform permit space entry operations shall:
 1. Obtaining any available information regarding permit space hazards and entry operations from the department.
 2. Coordinating entry operations with the department when both department personnel and contractor personnel will be working in or near permit spaces.
 3. Informing the department of the permit space program that the contractor will follow and of any hazards confronted or created in

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permit spaces, whether through a debriefing or during the entry operations.

7.0 ADVICE AND COUNSEL
OSHA Standard 1910.146 and Appendices

Appendix A Required Confined Space Decision Flow Chart



APPENDIX B CONFINED SPACE INVENTORY AND HAZARD ASSESSMENT



Entry Department:		
Location:		
Address:		
Description:		
Dimensions:		
Entry:		
Frequency:		
Qualification of Confined Space when Hazards are Controlled		
Permit Required	Alternate Entry	Re-class – N/P

Confined Space Entry Point	Confined Space Signage

IDENTIFICATION of HAZARDS PRESENT IN THIS SPACE		
Known	Potential	Elimination or Control
Atmospheric, Engulfment, Entrapment, Uncontrolled Energy Any Uncontrolled Hazard other than Atmospheric requires Permit (OSHM S-005)		
Introduced Hazard		
Hazard	Control	
Work Practice (Welding, Sanding, Chipping, etc)		

Additional Requirements for Entry	

Alternate Entry Procedure/Reclassification

Section A: Alternate entry procedure

Section A may be used instead of the entry permit if all of the following conditions are Yes:	Yes	No
The only hazard is atmospheric.	<input type="checkbox"/>	<input type="checkbox"/>
Continuous forced-air ventilation alone is sufficient to keep the space safe for entry.	<input type="checkbox"/>	<input type="checkbox"/>
Monitoring and inspection show that other hazardous conditions do not exist.	<input type="checkbox"/>	<input type="checkbox"/>
Conditions that make it unsafe to remove entrance cover have been eliminated.	<input type="checkbox"/>	<input type="checkbox"/>
Openings are guarded to protect employees from falls and falling objects.	<input type="checkbox"/>	<input type="checkbox"/>

Note: When permit-space entry is required to verify conditions, the PRCS program and entry permit must be used.

Use the table below to document test results for safe entry.

Space monitoring results		Baseline	Test 2	Test 3	Test 4
Supporting documentation for safe entry	Permissible entry levels	Initial:	Time: Initial:	Time: Initial:	Time: Initial:
Percent of oxygen	19.5% to 23.5%				
Combustible gas	Less than 10% LEL				
Other toxic gas					
Other toxic gas					
Other toxic gas					

If a hazardous atmosphere is detected during entry, remove employees immediately and re-evaluate the space to determine how the hazardous atmosphere developed. Take measures to protect employees before subsequent entry.

Section B: Reclassification of a permit space to a non-permit space

Section B may be used instead of the entry permit if all of the following conditions are Yes	Yes	No
The permit space poses no actual or potential atmospheric hazards.	<input type="checkbox"/>	<input type="checkbox"/>
All hazards within the space can be eliminated without entry into the space.	<input type="checkbox"/>	<input type="checkbox"/>
Employees have been informed or shown the actions taken to eliminate hazards.	<input type="checkbox"/>	<input type="checkbox"/>

Note: When permit-space entry is required to verify conditions, the permit-space program and entry permit must be used.

If hazards arise within or near the reclassified space, remove employees immediately and re-evaluate to determine whether it must be reclassified as a permit space.

Alternate entry Reclassification Date: _____

Space location: _____ Space description: _____

Name of person making the determination: _____

Confined Space/Permit Space Evaluation Survey

Name/description of this space _____

Location of this space _____

Person performing this survey _____

Date of this survey _____

Section 1 — Use this section to determine if the space is a confined space

Yes

No

Is the space large enough and so configured that an employee can enter and perform assigned work?

Yes

No

Does the space have restricted means for entry or exit? Doorways and other portals through which a person can walk are normally not considered restricted means for entry or exit.

Yes

No

Is the space *not* designed for continuous employee occupancy?

If all three answers are Yes, this is a confined space. Proceed to Section 2.

Section 2 — Use this section to determine if the space is a permit space

Yes

No

Does the space contain or have a potential to contain a hazardous atmosphere? Examples: combustible dusts, flammable mixtures, or oxygen deficiency that may expose employees to the risk of death, incapacitation, or acute illness.

Yes

No

Does the space contain a material that has the potential for engulfing an entrant? Examples: liquids or granular solids.

Yes

No

Does the space have an internal configuration such as inwardly converging walls or a sloping floor that could trap or asphyxiate an entrant?

Yes

No

Does the space contain another serious safety or health hazard? Examples: radiation, noise, electricity, and moving parts of machinery.

If any answer is Yes, this is permit space. An entry permit is required for entry.

APPENDIX C

Permit Required Space		
LOCATION:		
ADDRESS:		
CONFINED SPACE TYPE:		
DESCRIPTION:		
ENTRY PRECAUTIONS		
ENTRY INSTRUCTIONS:	PRIOR TO EVERY ENTRY	
1.		
Permit Issue Date:	Permit Expiration Date:	
Permit Issue Time:	Permit Expiration Time:	
Confined Space Supervisor (Print):		
Authorized Entrants:		
1.		
2.		
PRE-ENTRY ATMOSPHERIC TESTING	RESULTS	DIRECTION
Time:		
Oxygen Level:		
Explosive Gases:		
Toxic Gases:		
Signature of Tester:		
VENTILATION	VERIFY	DIRECTION
Mechanical Ventilation		
Passive Ventilation		
Mechanical Exhaust		
POST VENTILATION ATMOSPHERIC TESTING	RESULTS	DIRECTION
Time:		
Oxygen Level:		
Explosive Gases:		
Toxic Gases:		
Signature of Tester:		
COMMUNICATION	VERIFY	DIRECTION
Communication Procedure:		
Alarm Procedure Description:		
RESCUE	VERIFY	DIRECTION
Rescue Procedure: Medical		
Attendants/Entrants Rescue Trained		
Hoist (Required for Entry 5' or greater)		
Lifelines and/or Harness for Entrants		

PRE-ENTRY CONDITIONS AND EQUIPMENT		VERIFY	DIRECTION
Atmospheric Monitor Calibration			
Communication Equipment Test			
Hazard Assessment			
Site/Space Security –Barricades			
HAZARD ASSESSMENT		VERIFY	DIRECTION
Known Hazards: Engulfment			
Potential Hazards: Atmospheric			
Introduced Hazards: Electric			
Communication of All Hazards to Entrants:			
PPE REQUIREMENTS		VERIFY	DIRECTION
List all PPE Required for Entrants:			
CONTINUOUS/ADDITIONAL ATMOSPHERIC MONITORING			
Time		Oxygen	Explosive
DOCUMENTED SIGNATURES			
Entry Supervisor:			
Authorized Attendant:			
Competent Person/Atmospheric Testing:			
Competent Person/Ventilation – Pending Conditions:			
PERMIT CANCELLATION			TIME
Signature:			

Confined Space Permits shall be kept on file for one (1) year

Copies:

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Appendix D Atmospheric Testing Requirements

Atmospheric testing is required for two distinct purposes:

Evaluation of the hazards of the permit space *and* verification that acceptable entry conditions for entry into that space exist.

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

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

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

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

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

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