

TO: ALL COUNTY PERSONNEL

**FROM: VERDENIA C. BAKER
COUNTY ADMINISTRATOR**

PREPARED BY: RISK MANAGEMENT DEPARTMENT

SUBJECT: CONFINED SPACE ENTRY PROCEDURES

PPM #: CW-O-077

ISSUE DATE
July 5, 2023

EFFECTIVE DATE
July 5, 2023

PURPOSE:

To minimize the risk of Confined Space accidents involving Palm Beach County employees. This directive defines the method for control of those procedures and incorporates the safe practices for entry into Confined Spaces and the requirements outlined in the Occupational Safety and Health Administration (OSHA) Standard 29 C.F.R. § 1910.146 (where applicable).

UPDATES:

Future updates to this PPM is the responsibility of the Director of Risk Management.

AUTHORITY:

- OSHA 29 C.F.R. § 1910.146 - Permit-Required Confined Spaces as may be amended.
- OSHA 29 C.F.R. § 1926.21- Safety Training and Education as may be amended.
- OSHA 29 C.F.R. 1926.32-Safety and Health Regulations for Construction as may be amended.
- American National Standards Institute (ANSI) Standard Z117.1-2003- Safety Requirements for Confined Spaces as may be amended.
- National Electrical Code B NFPA-70 as may be amended.

POLICY:

The Permit Required Confined Spaces Policy is to:

1. Consider all confined spaces to be potentially hazardous unless determined to be safe by a Competent Person;

2. Ensure that each space is fully evaluated for all physical and atmospheric hazards;
3. Ensure that employees can self-rescue whenever feasible;
4. Ensure that all spaces are made as acceptable as possible for human entry prior to entry (e.g. prewashing, ventilation, etc.);
5. Ensure that all confined space tasks that require a permit have the appropriate documentation;
6. Ensure a plan is in place and communication has been made to all responsible parties to rescue an employee if required from a confined space, to include emergency services for extended periods within the confined space.

To accomplish this:

- The space must be evaluated for all potential hazards (physical and atmospheric) that may be present in the workspace, including:
 - Atmospheric hazards that may be generated in the workspace due to the work conducted;
 - Atmospheric hazards that could increase or develop due to other factors (e.g., rising temperature, chemical intrusion, tank walls, etc.) and may enter the space from external locations;
 - All potential hazards that either are present or may be present need to be eliminated.
- Conduct atmospheric testing prior to any work, even for spaces that appear to be free of hazards, including periodic testing throughout the extent of the job task at different levels (depth) as gases and vapors have different densities and may not be present at higher levels.
- Consider all spaces where the atmospheric hazards are only controlled by mechanical ventilation to be permit required.
- Be aware that confined space monitors can only accurately test for the hazards they are capable of measuring.
- Ensure that all instrumentation is bump tested and calibrated as per the manufacturer's recommendations.

If instrumentation cannot determine potential hazards (e.g. complete air monitoring is not available) the space must be considered to be Permit-Required and cannot be entered until the risk and all health hazards is determined jointly with the Department and Risk Management.

DEFINITIONS:

See Attachment A

PROCEDURE:

I. CONFINED SPACE ENTRY:

The OSHA Standard 29 C.F.R. § 1910.146 makes a clear distinction between spaces which have the potential for serious injury or death, and confined spaces which may require some special precautions but do not meet the definition of a Permit-Required Confined Space.

The OSHA Standard dictates minimum required safeguarding and rules for work in permit entry confined spaces. These requirements are necessary for spaces that meet the definition of Permit-Required Spaces but do not enhance the safety for non-permit spaces. It is therefore important to determine whether a space is permit-required or not.

1. Confined Space Survey - A competent person will be designated by each Department entering or having Permit-Required Confined Spaces in their work area. This person(s) shall conduct an initial survey of the premises and plan operations to identify confined spaces as defined by the standard. The data collected shall include the location of the space, description, dimensions (if known), access type and size, and any known hazards. The Department shall retain this information. ES/LC will provide technical assistance as requested. The Department shall establish a process to identify the addition or deletion of confined spaces and keep the documented inventory up to date.
2. Hazard Identification & Classification - Confined spaces shall be considered hazardous until determined to be otherwise. Hazards will be identified for each confined space. Confined spaces shall be considered permit entry until shown not to be. The classification of confined spaces must be certified by the approved permit writer based on an evaluation of the space, the work being conducted, and atmospheric testing results. Spaces that contain or have a potential to contain a hazardous atmosphere, engulfment or entrapment hazard, or other recognized serious safety or health hazards require a permit (and all the special requirements that go along with entering a permit-required confined space).

II. DEPARTMENT RESPONSIBILITIES:

A. Department Supervisors/Managers shall:

1. Inform all employees under their supervision of the confined spaces that are present in their work area, what a *confined space* and a *permit-required confined space entry* is, and the procedures for approved and safe entry.

2. Keep an inventory of all potential permit entry confined spaces in their areas, request signs where appropriate, and determine any unique hazards known in the spaces. Develop a listing of the spaces as outlined above and maintain a current inventory of confined spaces within their department locations.
3. Monitor the confined space program, (using the canceled permits which will be retained on file), in order to evaluate and revise the program/procedures as necessary, (to ensure employees are following the procedures outlined herein and to provide recommendations for improvement or modification).
4. Verify that all workers involved in confined space operations are authorized, properly trained, properly hydrated, and competent in this type of work.

5. **Records:**

The following documents identified in this procedure are to be retained as follows:

- a. Confined Space Entry Permit/Certification form,
- b. Maintenance Log for Air Purifying/CO alarms/Calibration,
- c. Confined Space Assessments,
- d. Fire Department Records,
- e. Training Records, and
- f. Additional records that are identified within supporting documents referenced in this PPM.

B. Entry Supervisor/Approved Permit Writer shall:

1. Be responsible for authorizing the entry along with the completion and signing of the Confined Space Entry Permit /Certification form. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure. Verify that all workers involved in confined space operations are authorized, properly trained, and competent in this type of work and that everyone on-site is fully aware of the identified hazards. Know the requirements of the confined space entry program, including proper execution of the duties of entrants, attendants, and rescue personnel.
2. Verify that appropriate procedures, equipment, and tests specified on the permit/certification are in place before allowing entry to begin.
3. Properly document the exact time an entrant enters and exits the confined space. It is vital to know this information in order to track time periods of potential exposures and the overall well-being of the entrant.
4. Verify that rescue services are available and that the means for summoning them are operable. Best practices indicate that rescue services should be notified of confined space

work prior to the execution of the work. This notification shall include the exact location and close landmarks.

5. Evaluate entry space, conduct required atmospheric testing, and prepare:
 - a. Documentation of testing for all confined spaces - the approved testing equipment shall be in good condition with current calibration certification.
 - b. All specified span gases used for calibration must be verified to be within the *Best Used by Date*.
6. Authorize to stop work if problems develop. Terminate the entry and cancel the permit either if the work is completed, a non-permitted condition is created in or near the permit space, or if any unknown hazards present themselves making the confined space unsafe.
7. Remove unauthorized individuals who enter or who attempt to enter the permit space during the entry operation. If any unauthorized individuals enter the confined space, stop all operations immediately.
8. Control responsibility for a permit space entry operation and verify that operations performed within the space remain consistent with the terms of the entry permit and are deemed as acceptable entry conditions, and are consistently maintained.

NOTE: For the purposes of Confined Space Entry Procedures the term "Entry Supervisor" is the person responsible for determining if acceptable entry conditions exist, authorizing the entry, and overseeing entry operations and terminating entry (See definitions below). As such, this should normally be a Departmental competent person on-site in charge of the entry team. This person may or may not be employed by the County in a full-time supervisory role.

The Confined Space Entry Procedures require an entrant and attendant on-site at all times (one of which is normally designated the "Entry Supervisor"). An Entry Supervisor may also serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. In addition, the duties of Entry Supervisor may be passed from one individual to another during the course of an entry operation while ensuring that all affected persons are aware of the change.

A supervisor may be responsible for multiple entry teams (entrants and attendants) working simultaneously in the local area.

C. Authorized Entrants shall:

1. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
2. Use all appropriate safety equipment properly for confined space entry and safeguarding the work site.
3. Communicate with the attendant as necessary (and maintains continuous two-way communication contact) to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space.
4. Alert the attendant whenever a prohibited condition develops.
5. Exit from the permit space as quickly as possible whenever:
 - a. An order or alarm to evacuate is given by the attendant or the entry supervisor,
 - b. Any warning sign or symptom of exposure of a dangerous situation, or
 - c. A prohibited condition is detected.

D. Authorized Attendant shall:

1. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
2. Be aware of possible behavioral effects, which may be caused by the applicable hazard exposures.
3. Inspect all entrants prior to entry. Verbally ensure all entrants are stable and ready for entry. Physically inspect all Personal Protective Equipment (PPE) and safety equipment for proper wear and inoperable equipment.
4. Continuously maintain an accurate count of authorized entrants within the permit space.
5. Remain outside the permit space (at the point of entry/exit) during entry operations until the job is completed or relieved by another attendant.
6. Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

7. Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space, and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:
 - a. A prohibited condition, detection of behavioral effects of hazard exposure to the authorized entrant(s), or a situation outside the space that could endanger the authorized entrants; and/or
 - b. The attendant cannot safely perform all the duties required.
8. Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards. Provide standby assistance to entrants.
9. Warn any unauthorized persons that they must stay away from the permit space.
10. Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

E. Confined Space Rescue Services (Fire Protection) shall:

1. Be provided by the appropriate Fire Rescue agency for the area where the work is taking place.
2. In the event of an emergency: call 911, contact County Warning Point, and notify the appropriate supervisors. Stay in contact with the emergency rescue team in order to expedite their arrival, (provide travel directions if needed, provide landmarks, and have someone move to an area that is easily seen in order to wave emergency services to the exact location), receive interim instructions to allow for the fastest possible response.
3. Whenever a condition arises that emergency rescue responders must be contacted, only those persons will be allowed to enter the confined space and perform the rescue. No others shall participate in the emergency confined space rescue, except to lend any support or information to the rescue services from outside the space as requested.

F. Training:

1. All employees performing tasks in confined spaces must be trained sufficiently to acquire the necessary understanding, knowledge, and skills for the safe performance of their assigned duties.

2. Additional training will be provided by a competent person if there is a change in assigned duties and/or a change in confined space operations. The training will establish employee proficiency in the duties required by this PPM and will introduce new and/or revised procedures as necessary.
3. The operating department shall certify and document employee training within the County's Learning Management System. The certification shall contain the employee's name, the signatures or initials of the trainers, dates of training, and all documents must be retained by the department. Follow-up training shall be conducted on a regular basis to ensure employees are familiar with confined space hazards and control procedures.
4. At a minimum and after initial training, confined space refresher training will be conducted every 2 years thereafter, to include, mandatory hands-on training post any classroom or online training.

G. Confined Space Assessment:

1. Each department shall evaluate their workplaces to determine if any confined spaces exist and compile a list of these confined spaces. These areas shall be posted with the sign, "**DANGER-PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER.**"
2. Effective measures shall be taken to prevent unauthorized access to confined spaces. This should include security to protect against unauthorized access by employees and the general public. This would include, but not be limited to, appropriate warnings and ***NO TRESPASS*** signs, along with locked access hatches, doors, gates, fenced enclosures, alarms, or other suitable protection.
3. If unsure, whether a space is permit entry or not, contact the supervisor and/or the Loss Control Division of the Risk Management Department for assistance with the assessment and clarification.

NOTE: All spaces below grade, which must be entered, are considered confined spaces.

III. CONFINED SPACE OPERATIONS:

A. Permit Required Confined Spaces:

1. A variety of permit-required confined spaces are located throughout Palm Beach County. These spaces must meet the definition of a confined space and a permit-required confined space as described in the *definitions* section of this PPM. Whenever unsure if a space may contain a significant hazard, the space shall be

assumed to be a permit-required confined space until shown not to be (e.g., reclassified as *non-permit space*).

B. Non-Permit Confined Spaces:

1. Non-permit confined spaces are those that do not contain or have the potential of any atmospheric hazard capable of causing serious physical harm or injury. Permit required spaces are those where there is a real possibility of a significant and potentially serious hazardous atmosphere or other recognized safety hazards. Hazards inherent in any work (e.g., trip hazards, etc.) do not necessarily make a confined space permit required for entry. Essentially, the hazards in these spaces are similar to the work being performed outside of a confined space. PPE and appropriate procedures may still be warranted even though the work is not covered by this procedure.
2. Non-permit spaces are not only identified by the space but also by the work activity. Most chemical use or processes conducted within confined spaces are by definition a permit-required space. These same spaces may be non-permit if no chemicals are used and none of the conditions defined under permit-required spaces may occur. This will include shallow spaces where employees will work in without chemicals and in situations where the employees breathing zone is outside of the space. Non-permit spaces which may have an atmosphere which is not hazardous but still may cause some worker discomfort should be frequently and continuously monitored and ventilated so that appropriate engineering controls can be utilized to maintain the fresh air and benefit of cooling the ambient air.

C. Reclassification of Permit Required Confined Spaces:

All confined spaces are considered to be *permit-required* confined spaces (pending the evaluation of all the hazards by a competent person) until formally reclassified by the entry supervisor/approved permit writer. Confined spaces which may have some potential for containing a hazardous atmosphere, engulfment, entrapment or other recognized serious safety or health hazards are considered to be permit-required spaces but may be reclassified to a non-permit confined space providing that all the following conditions are met:

1. The atmosphere within the space can be adequately tested from outside of the space and found not to be a hazardous atmosphere, by means of evaluating all levels. This is conducted through the utilization of an atmospheric monitor and string, allowing the slow descent of the monitor ensuring to stop at each level to achieve an accurate test;
2. The atmosphere will not become hazardous (e.g., no chemical use or processes such as welding). Spaces which hold chemicals but cannot be thoroughly cleaned, is excessively

contaminated, or corroded are considered to have the potential to become hazardous and thus cannot be reclassified;

3. All hazards (e.g. electrocution, entrapment etc.) can be eliminated from outside of the space;
4. The space must be certified in writing as a *non-permit* confined space, by the Approved Permit Writer having considered the above items and identified hazards
5. An attendant must be provided and always present at the entry/entry point of a confined space whenever operations are underway; and
6. Safeguarding and PPE required must be accurately specified on the Confined Space Permit/Certificate.

D. Confined Space Permit/Certification:

1. The Palm Beach County - Confined Space Entry Permit/Certification (*entry permit*) is used to document and authorize entry into permit-required spaces. The same form is also used to certify the reclassification of permit-required spaces to non-permit-required spaces. The first box located at the top of the Permit/Certification form identifies if it is a permit or non-permit certification.
2. All confined spaces, which could potentially contain a hazardous atmosphere, engulfment or entrapment hazard, or other recognized serious safety or health hazard is considered a permit-required confined space for all required entry.

The Palm Beach County Confined Space Entry Permit/Certification forms are produced by, and available from the ES/LC Division of Risk Management Department. All permits/certifications must be completed and approved. Permits are to be signed only when all safeguarding required for entry is in place and operational. One copy of the form must be posted outside of the space, one copy retained by the department conducting the work, and ES/LC will review Confined Space Permits during the department's annual Safety Inspections. If at any time during an entry a hazardous atmosphere or other serious safety or health hazard develops, the entrants must immediately exit the space and contact the applicable supervision and emergency services as required. No re-entry can be made until adequate safeguards are implemented and the space is again tested and found to be safe.

3. All permits or certifications must be completed by a competent person who is a trained entry supervisor, prior to entry into any permit-required confined space or a confined space, which is reclassified to a non-permit space. The expiration time and

date are listed on the permit form. Unless otherwise noted, all permits are good for a maximum of one work shift and may not exceed the time required to complete the assigned task.

E. Minimum Requirements for Work in Permit-Required Confined Spaces:

All permit-required confined space entries must be:

1. Isolated from external hazards (e.g., vehicle and pedestrian traffic, construction operations, etc.), and where feasible, barriers must be erected to protect non-authorized entrants.
2. Purged, inverted, flushed, or ventilated in order to eliminate or control atmospheric and physical contact hazards as much as feasible, and free of all safety hazards (e.g., equipment isolation, engulfment protection, lockout/tag out in place, etc.).
3. Only employees who have received appropriate training may function as entrants, attendants, approved/authorized permit writers, entry supervisors, or rescuers for work within confined spaces.
4. Before a person enters a confined space, the internal atmosphere must be tested by an authorized permit writer or entry supervisor with a calibrated atmospheric monitor. The testing must measure for oxygen content, flammable gases and vapors, and for potential toxic air contaminants (done in that order). The internal atmosphere will be evaluated and controlled to safe levels prior to, and throughout all entries. If control of these safe levels is unachievable, no entry is authorized, regardless of permit approval. Levels must be maintained to:
 - a. Oxygen level between 19.5 and 23.5 percent.
 - b. Flammable level below 10 percent LFL.
 - c. Carbon monoxide below 20 ppm.
 - d. Hydrogen sulfide below 5 ppm.
 - e. Other toxins below one-half of the value for the TLV or other recognized standards.
5. Any employee/non-employee, who enters the confined space or that employee's authorized representative must be provided an opportunity to observe the pre-entry procedures and testing. Best practices will provide time for the entire confined space crew to review, question, and validate all plans and procedures, per the on-site plan.

6. Ventilated and continuously monitored, whenever the atmosphere in the permit required confined space, regardless of initial hazards that were initially identified. If ventilation and/or monitoring are not feasible, entry is no longer authorized.
7. Whenever working in a confined space that has an atmosphere with objectionable odors or vapors, which are not considered hazardous but may be either objectionable or uncomfortable to employees, ventilation and/or respiratory protection must be used if feasible to improve the air quality.
8. Utilize appropriate additional PPE to further limit atmospheric and/or contact with known and unknown hazards as much as possible.
9. Provide continuous communications with any entrants. In small quiet areas, direct one-to-one verbal communication is feasible. In large extended areas, intrinsically safe wire/wireless communications may be required. Utilize proper equipment, in good working order to ensure that the attendant can perform their duties including; ordering an exit from the space or contacting rescue services, (this equipment will generally take the form of a two-way radio, intercom system, telephone, cellular phones, etc.).
10. Adequately lighted so that work can be done safely and exit from the space can be accomplished quickly in case of an emergency. Due to flammability and/or electrocution hazards, the lighting provided must not constitute a hazard in the confined space. Utilize explosion proof, spark-free, low-voltage equipment with GFCI protection. (Refer to National Electric Code NFPA-70).
11. Provided with approved ladders of sufficient height whenever required and whenever descending four feet or more. Utilize approved fall protection and rescue equipment whenever feasible (e.g., whenever use of such equipment does not constitute a hazard in itself, like a rescue tri-pod).
12. Provided with a full-time approved and trained attendant. Fully evaluated local hazards and controls with documentation annotated on the completed Palm Beach County - Confined Space Entry Permit.
13. Whenever a condition arises that emergency rescue responders must be contacted, only those persons shall be allowed to enter the confined space and perform the rescue. All others shall not participate in the emergency confined space rescue, except to lend any support or information to the rescue services from outside the space as required.
14. Use or introduction of high velocity steam or gas jets into a confined space must be prevented due to static electricity formation.

15. Employees working in confined spaces with top openings must be protected from objects falling from above.
16. Chemical use in confined spaces must be restricted whenever possible with quantities kept to the minimum necessary for immediate operations. If chemicals are to be used, the work area must be continuously monitored and ventilated to prevent the accumulation of toxic and flammable atmospheres.
17. Compressed gas cylinders (except for self-contained breathing apparatus) must remain outside of a confined space.
18. Boots, gloves, and gratings should be used to prevent slipping/falling inside of confined spaces.
19. Appropriate retrieval equipment or methods shall be used whenever a person enters a permit-required confined space. **Exception:** If the retrieval equipment increases the overall risks of entry or does not contribute to the rescue, its use may be waived.
20. Where a potential exists for persons or objects falling into a confined space, warning systems or barricades will be employed at the entrance.
21. No smoking is allowed in confined spaces.

F. Contractors:

Whenever contract workers perform tasks that involve confined space entry, the project manager shall:

1. Inform the contractor that the workplace contains confined spaces and that permit space entry is allowed only through compliance with a permit space program developed and implemented by the contractor. This includes all program elements including permits, instrumentation, and training (along with meeting the compliance requirements of all applicable OSHA, ANSI, NFPA, and NEC standards).
2. Apprise the contractor of the known hazards and any relevant prior experience with the confined spaces they may be required to enter.
3. Apprise the contractor of any precautions or procedures that Palm Beach County has previously used for our employees entering the space.
4. Coordinate entry operations with the contractor as needed when both Palm Beach County employees will be working in or near the permit space.

5. Debrief the contractor at the conclusion of the entry operations regarding any hazard confronted or created in permit spaces during entry operations.
6. In addition to complying with the permit space requirements, each contractor who is retained to perform confined space entry operations shall:
 - a. Obtain any available information regarding permit space hazards and entry operations.
 - b. Coordinate entry operations whenever working in or near permit spaces, and
 - c. Inform the Palm Beach County project supervisor of the contractors' permit space program and any hazards confronted or created in permit spaces at any time during entry operations.



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Supersession History

1. PPM# CW-O-077, effective 6/14/04
2. PPM # CW-O-077, effective 5/11/11
3. PPM # CW-O-077, effective 7/15/16

Attachment A: 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.

Attendant – An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

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

Biological Hazards – Microbiological agents presenting a risk or potential risk to the well-being of humans through inhalation, ingestion, skin absorption, or injection.

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.

Certification - The assessment process and documentation used to determine that a permit-required confined space could be reclassified to a non-permit space.

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

Confined Space - A space that: (1) is large enough and so configured that an entrant can enter and perform assigned work, (2) has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry), and (3) is not designed for continuous entrant occupancy.

Double Block and Bleed - The closure of a line, duct, or pipe by closing, locking, or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between 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 any 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 - The written or printed document (The Palm Beach County - Confined Space Entry Permit / Certification Form) that is provided by the employer to allow and control entry into a permit space. This form is completed by the Approved Permit Writer to authorize and control entry into a confined space.

Entry Supervisor (Approved Permit Writer) - The person responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing and overseeing entry operations, and for terminating entry as required by this section.

Evacuation - An unaided emergency exit out of a confined space. This action may result from the entrant's own decision or by a command from outside the space.

Hazardous Atmosphere - An atmosphere that may expose employees to the risk of death, incapacitation, impairment of the ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- a. Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- b. Airborne combustible dust at a concentration that meets or exceeds its LF. Note: This concentration may be approximated when dust obscures vision at a distance of 5 feet or less.
- c. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
- d. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published (this should be considered to be 50 percent of the recognized exposure limit);
- e. Any other atmospheric condition that is immediately dangerous to life or health.

Horizontal Rescue - Methodology to move the entrant to safety while the entrant's weight is supported by the surface of the floor or other horizontal level within the space.

Hot Work Permit – The employer has 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 (IDLH) - Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

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 tag out 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.

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 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 (Permit Space) - A confined space that has one or more of the following characteristics:

- a) Contains or has the potential to contain a hazardous atmosphere;
- b) Contains a material that has the potential for engulfing an entrant;
- c) 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

d) Contains any other recognized serious safety or health hazard.

Permit System - The employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited Condition - Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Rescue - Aided assistance in exiting the confined space requiring entry by the designated rescuer(s).

Rescue Service - Palm Beach County Fire Rescue or a municipality supplying Fire Rescue Services for the location of the entry is designated to rescue employees from Permit Required 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.

Vertical Rescue - Methodology to move the entrant to safety while all or a portion of the entrant's weight is supported by a life-safety rope or wire (Normally completed using a Rescue Tri-Pod). This would include diagonal rescue where a portion of the entrant's weight is supported by a surface within the space.