

Confined Space Plan



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1.0 Purpose

The purpose of the Confined Space Plan is to establish practices and procedures that protect Idaho State employees from hazards associated with confined space work and to comply with federal and state confined space regulations.

2.0 Scope

This plan applies to all Idaho State employees with duties that relate to entry into and work within confined spaces. Information in this Plan applies to all Idaho State campuses and Facilities with confined spaces.

Contractors working on Idaho State campuses will be notified of any confined spaces within their scope of work. Contractors may review the material in this plan but are expected to complete work on campus in a safe manner in accordance with applicable laws.

3.0 Responsibilities

3.1 Environmental Health and Safety Department (EHS)

- Evaluate the Confined Space Plan and program.
- Advise Departments on compliance with this Plan.
- Provide confined space training as needed.
- Work with facility and department representatives to maintain and make available an inventory of all known non-permit and permit required confined spaces.
- Conduct and oversee confined space classification/declassification assessments and reassessments as needed.
- Assist in the selection of monitoring equipment, safety equipment and work materials for permit required confined space entries.
- Conduct safety reviews of confined spaces.
- Recommend and assist with the placement of identifying confined space signage.
- Review confined space entry permits to identify deficiencies and improve safety.
- Coordinate with local emergency responders by informing them of permit required confined

3.2 Supervisors

- Ensure that this Plan is implemented and followed by employees under their supervision.
- Be familiar with the contents of this Plan and how it applies to work areas under their responsibility and authority.
- Ensure that other relevant university safety plans and procedures are followed when relevant to confined space work (i.e. lock out/tag out, hot work, etc.)
- Provide appropriate personal protective equipment (PPE) to employees and ensure employees are using the PPE.
- Assist EHS in the identification and review of confined spaces.
- Ensure that employees under their supervision receive appropriate confined space training commensurate with their duties.
- Approve and appoint employees to serve as entry supervisors, attendants, and entrants.
- Ensure that confined space entry permits are completed correctly and posted at the entrance of the Permit Required Confined Space while conducting work.

- Maintain copies/records of confined space entry permits, forward copies to EHS and make them available to EHS upon request.

3.3 ISU Employees

- Comply with the requirements of this Plan.
- Attend appropriate confined space training relative to expectations of the employee as an entry supervisor, attendant or entrant.
- Attend confined space awareness training if job responsibilities require work around confined spaces.
- Complete confined space entry permits prior to beginning work in a confined space.
- Use appropriate PPE and any air monitoring equipment while performing confined space work.
- Stop work and notify their supervisor or EHS if unsafe conditions or practices are observed or introduced into the confined space.

3.4 Project Managers/Maintenance Managers Coordinating Contractor Work

- Attend confined space awareness training.
- Inform contractors of work areas that contain a Permit Required Confined Space.
- Notify contractors of known hazards within or around a confined space and any information on Idaho State's experience with the confined space.
- Notify the contractor of any practices or procedures that Idaho State has implemented for the protection of its employees in or around the confined space in the contractor's work area.
- Coordinate with EHS on contractor work in a confined space.
- Coordinate operations when a contractor and an Idaho State employee are working within or around a confined space.
- Complete an EHS Confined Space Entry Permit (Appendix C) if a contractor is working with Idaho State employees in a Permit Required Confined Space.
- Communicate to contractors that work on Idaho State campuses is to be performed in a safe manner in compliance with applicable laws.

3.5 Contractors

- Complete work on campus or on Idaho State property in a safe manner in accordance with applicable laws.
- Contractors are responsible for supplying all needed equipment to perform safe entry and/or rescue.
- Provide documentation of compliance with applicable laws upon request.

4.0 Regulatory Basis

The Idaho Division of Building Safety (DBS) regulates occupational safety and health for all state entities. DBS references by statute and enforces all Federal Occupational Health and Safety Administration (OSHA) standards. Idaho State University is required to have a Confined Space Program that meets the following federal requirements.

- [29 CFR 1910.146 OSHA Permit Required Confined Spaces - General Industry Standard](#)
- [29 CFR 1926.1204 OSHA Permit Required Confined Spaces - Construction Industry - Subpart A-A](#)

Confined space safety entry requirements are applicable to Idaho State workplaces including ISU owned or leased property.

5.0 Confined Space Types

A confined space is a space that is:

- Large enough and so configured that an employee can bodily enter and perform assigned work.
- 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
- Not designed for continuous employee occupancy.

5.1 Non-Permit Required Confined Spaces

A Non-Permit Required Confined Space is a space that has the characteristics of a confined space but does not possess any of the factors that would deem it a Permit Required Confined Space. A Non-Permit Required Confined Space does not contain or have the potential to contain any hazard capable of causing death or serious physical harm. Two examples of a Non-Permit Required Confined Space would be an open trench that is less than 4 feet deep and 15 ft. long and a mechanical room that has only one door for entry/egress but has continuous ventilation and circulation of air. Departments/Units may still need to address hazards associated with entering these spaces by completing an ISU Job Hazard Analysis (JHA) Form. Non-Permit Required Confined Spaces should have identifying signage clearly indicating it is a confined space.



Fig. 1: Example signage for a confined space.

5.2 Permit Required Confined Space

A Permit Required Confined Space is a confined space that has any one or more of the following characteristics in addition to those of a confined space:

- 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 and;
- Contains any other recognized serious safety or health hazard.

A Permit Required Confined Space should be clearly marked with danger signage.



Fig. 2: Example signage for Permit Required Confined Space.

Under certain conditions described in OSHA’s confined space standards, alternate procedures can be used for worker entry into a Permit Required Confined Space for which the only identified hazard is an actual or potential hazardous atmosphere qualifies for the alternate entry procedure if it can be demonstrated by air monitoring, continuous forced air ventilation alone is sufficient to remove the hazardous atmosphere and maintain the space safe for entry. An entry supervisor must complete the Alternate Confined Space Entry Form (Appendix D) to verify these conditions.

6.0 Confined Space Identification, Evaluation, and Inventory

The Confined Space Evaluation is a process that identifies and classifies all potential confined spaces and their hazards. The EHS Department is responsible for facilitating the identification and classification of confined spaces on campus. All confined spaces are evaluated using the Confined Space Evaluation Form (Appendix B). EHS and corresponding departments maintain an inventory of confined spaces in the [ISU Confined Space Inventory Spreadsheet](#). This spreadsheet will be reviewed and updated whenever there are changes affecting work conditions or when a new Permit Required Confined Space is identified.

7.0 Confined Space Reclassification

7.1 Permit Required Confined Space Reclassification

Permit Required Confined Spaces may be reclassified as Non-Permit Spaces. Reclassification occurs when physical hazards and potential hazards are removed. Examples include, but are not limited to ventilation fan plenum spaces, some crawl spaces, vaults, and interstitial spaces. Neutralization of dangerous moving parts by lockout for example, may allow reclassification to Non-Permit status. If entry to a space is required to remove hazards, the space must be treated as a Permit Required Confined Space until hazards have been eliminated. Controlling atmospheric hazards with forced air ventilation does not eliminate the hazards. Reclassification of a Permit Required Confined Space to a Non-Permit Space must be documented. For permanently reclassifying a space, the Confined Space Evaluation Form (Appendix B) may be used, noting the date, location of the space and signature of person making the determination to a Non-Permit Required Confined Space due to the elimination of all potential hazards. It must be documented and reviewed by EHS before it is changed in the ISU confined space inventory spreadsheet.

7.2 Reevaluation of a Non-Permit Required Space

When changes in the use or configuration of a Non-Permit Space increase the hazards to entrants, the space must be reclassified as a Permit Required Confined Space. If employees are in a Non-Permit Space and hazards develop, they must exit the space. The space must then be treated as a Permit Required Confined Space.

7.3 Reclassification of a Permit Required Confined Space by Hazard Elimination

A Permit Required Confined Space may be classified temporarily (no longer than 8 hours) as a Non-Permit Confined Space for as long as the hazards remain eliminated. A Temporary Permit Required Confined Space Reclassification Form (Appendix E) can be filled out provided that the following conditions are met:

- The confined space does not contain an actual or potential hazardous atmosphere.
- The confined space does not contain hazards capable of causing death or serious physical harm, such as engulfment in solid or liquid material, electrical shock, or moving parts.
- If entry is needed to remove hazards, the space must be treated as a Permit-Required Confined Space until hazards have been eliminated.

8.0 Confined Space Entry Procedures and Responsibilities

8.1 Procedures for entering Non-Permit Required Confined Spaces

Confined spaces that do not contain known hazards have reduced requirements for entry. Spaces classified as Non-Permit do not involve hazards considered serious. Non-Permit spaces do not require a written permit or attendant for entry. Non-Permit spaces do not require any special testing or training. However, entrant(s) may still need to address hazards associated with entering these spaces by completing an ISU Job Hazard Analysis (JHA) Form.

8.2 Procedures for entering Permit Required Confined Spaces

Permit Required Confined Space – Pre-Entry	
Entry Supervisor	
✓	Determines if non-entry rescue can be performed. (if it cannot, contact EHS.)
✓	Determines control measures for associated hazards.
✓	Verify that all equipment and personnel are available.
✓	Complete Confined Space Entry Permit (Appendix C).
✓	Ensure that the confined space is ventilated and tested prior to entry.
Permit Required Confined Space – During Entry	
Entry Supervisor	
✓	Ensure and verify that acceptable entry conditions are maintained.
✓	Ensure entry operations remain consistent with terms of the permit.
Entry Attendant	
✓	Maintain communication with the entrant(s).
✓	Perform no other duties that will interfere with their ability to observe the entrant(s).
✓	Control entry by remaining at the work site.
✓	Perform periodic air quality checks with air meter as required.
✓	Keep an accurate accounting of entrants.
✓	Does not enter the space unless they are replaced by a qualified attendant and they are listed as an entrant.

Permit Required Confined Space – During Entry (cont.)	
Entry Attendant (cont.)	
✓	Order the entrant(s) to evacuate the space if: <ul style="list-style-type: none"> • A prohibited condition is detected • Changes in behavior are observed from exposure to any hazard • A nearby situation is identified that may endanger the entrant(s) • They are unable to perform all required duties effectively and safely.
Entrant(s)	
✓	All required PPE is donned, and their personal air meter is turned on.
✓	Ensure there is adequate lighting.
✓	Must maintain communication with the attendant and maintain a readiness to evacuate the space when ordered to do so.
Permit Required Confined Space – Post-Entry/Closing Documentation	
Entry Attendant	
✓	Ensure entrant(s) have evacuated the space.
✓	All barriers and equipment have been removed and the entry to the space is secured.
Entry Supervisor	
✓	Ensure the entrance to the space is secure.
✓	Conduct a post-entry briefing with all participants.
✓	Close the permit by signing the permit closure section of the permit as warranted: <ul style="list-style-type: none"> • At the completion of the job. • At the end of the work shift. • When a change occurs in work conditions or methods that requires additional controls. • When changes occur that affects acceptable entry conditions. (<i>Note: If the permit is closed due to a new hazardous condition, a new permit is required.</i>) • Ensures that a copy of the closed permit and all associated documentation is forwarded to EHS within 7 days of permit completion.

8.3 Procedures for Alternate Confined Space Entry

Alternate Confined Space Entry – Prior to Entry	
Entry Supervisor	
✓	Verify that entry conditions qualify for an alternate confined space.
✓	Complete the Alternate Entry Form (Appendix D).
✓	Ensure hazards are neutralized as specified on the entry form.
✓	Conduct pre-entry meeting with participants about hazards and controls involved.

Alternate Confined Space Entry – Prior to Entry (cont.)	
Entry Attendant	
✓	Delineate work area to control vehicular/pedestrian traffic as needed.
✓	Post signage and any required permits.
✓	Control hazards near the confined space.
✓	Pre-test the atmosphere in the space that it is acceptable.
✓	Ensure conditions remain acceptable and forced air ventilation is in place if required.
Alternate Confined Space Entry – During Entry	
Entry Attendant	
✓	Maintain communication with the Entrant(s).
✓	Perform no other duties that will interfere with their ability to observe the entrant(s).
✓	Control entry by remaining at the work site
✓	Perform periodic air quality checks with air meter as required.
✓	Does not enter or leave the entry unless they are replaced by a qualified attendant and they are listed as an entrant.
✓	Order the entrant(s) to evacuate the space if: <ul style="list-style-type: none"> • A prohibited condition is detected • Changes in behavior are observed from exposure to any hazard • A nearby situation is identified that may endanger the entrant(s) • They are unable to perform all required duties effectively and safely.
Entrant(s)	
✓	All required PPE is donned, and their personal air meter is turned on.
✓	Maintain communication with the entry attendant.
✓	Ensure there is adequate lighting.
✓	Perform the work as long as hazards are controlled as specified on the form.
✓	Evacuate the space when directed to do so by the entry attendant.
Alternate Confined Space Entry – Post Entry/Closing Documentation	
Entry Attendant	
✓	Ensure entrant(s) have evacuated the space.
✓	All barriers and equipment have been removed and the entry to the space is secured.
✓	Complete and submit the Alternate Confined Space Entry Form to the entry supervisor

Alternate Confined Space Entry – Post Entry/Closing Documentation (cont.)	
Entry Supervisor	
✓	Ensure the entrance to the space is secure.
✓	Conduct a post-entry briefing with all participants.
✓	Review the form and all related documentation for completeness then submit them to the EHS Department.

9.0 Ventilation

If a confined space contains an atmosphere that is oxygen deficient, flammable, contaminated with a hazardous gas, chemical or material, or considered Immediately Dangerous to Life or Health (IDLH), the area will require purging before employees can enter. Continual forced ventilation may be necessary to keep areas safe. It is advisable if any of these conditions exist to contact EHS to review the measurements and the planned corrective measures before proceeding

The minimum length of time needed to ventilate a space before it is considered safe to enter must be calculated as given below. A volume of clean air equal to at least 20 times the volume of the space is blown into the space to purge the atmosphere. This is based on the OSHA recommendation of 20 air changes per hour. The following parameters must be known:

- Volume of space (cubic feet)
- Ventilation device flow rate (CFM or cubic feet/min.)

To determine the minimum time the ventilator should operate before testing the air prior to entry, divide the volume of the space by the flow rate of the blower. Multiply that by the number of air changes required.

$$\left(\frac{\text{Volume of space in cubic feet}}{\text{Ventilation device flow rate in cubic feet per minute}} \right) \times 20 (\text{number of air changes})$$

Continue to ventilate the space at a rate of 20 air changes per hour as long as the confined space is occupied.

10.0 Monitoring

Monitoring requirements for entry are listed on the associated entry permit. Monitoring of hazardous conditions is required prior to receiving entry authorization. Ongoing monitoring may be periodic or continuous as required by the permit. Monitor at several elevations as stratification may cause a hazardous atmosphere to be present at different levels. The same applies to any reentry of the space after a planned break. Only personnel trained in the proper use of monitoring equipment are authorized to perform required air monitoring. The air constituents that should be monitored are:

- Oxygen (O²)
- Flammability (percent of Lower Explosive Limit (LEL))
- Sulfide (H₂S)
- Carbon Monoxide (CO)
- Any other suspected or known atmospheric hazard.

Readings should be taken at 1-foot to 2-foot incremental distances from the entry space opening at 45 seconds to 1-minute intervals minimum.

If at any time the oxygen concentration falls below 19.5 percent, the cause of the oxygen deficiency must be determined, and controls must be in place before entry is allowed. If entry is necessary to correct the deficiency, self-contained breathing apparatus (SCBA) must be worn. (Note: the entrant has the right to witness atmospheric testing.) EHS should be consulted with any questions on the use of the equipment.

10.1 Air Quality and Toxic Air Constituents

For entry or reentry, the following levels for oxygen and for air contaminants must be present:

Hazard	Regulatory Limit ¹	Low Alarm Levels ²	High Alarm Levels ³
Oxygen (O ₂)	19.5 – 23.5 %	20.6 – 21.5 %	20.4 – 21.7 %
Lower Explosive Limit (LEL)	<10 %	2 %	4 %
Carbon Monoxide (CO)	<35 ppm	15 ppm	25 ppm
Hydrogen Sulfide (H ₂ S)	< 10 ppm	3 ppm	5 ppm

Notes:

1. EH&S recommended Alarm levels set on air monitoring instrument(s) prior to confined space entry (as recommended by American Conference of Governmental Industrial Hygienists (ACGIH)).
2. If the air monitoring instrument only has one alarm set level, use the low alarm settings.
3. ppm = parts per million.

The air should be tested at several levels in the space since gases may settle into layers. Continuous air monitoring should be done if the atmosphere can change, such as during welding, painting, descaling, cleaning with chemicals or working in sewers. Continuous air monitoring is recommended for all entries, verifying readings every 10 minutes. A secondary monitor may be worn by the entrant as an added precaution.

10.2 Air Monitoring Procedures and Responsibilities

Air Monitoring – Pre-Entry	
Entry Supervisor/Attendant	
✓	Ensure air testing meter is fully charged.
✓	Turn on meter and calibrate meter with approved testing gas.
✓	Ensure all other personal air monitoring meters are charged and calibrated.
✓	Attach hose or probe to testing meter. Hose should be long enough to reach the bottom or end of the space if possible. (Note: If space is horizontal attach hose to a long handle extension or a section of PVC pipe the length of the hose)
✓	Test the air inside the space 1 foot to 2 feet away from the entry for 45 seconds to 1-minute then record the readings on the permit/form.
✓	Proceed another 1-foot to 2-feet further in and hold for 45-seconds to 1-minute again and record the readings on the permit/form.
✓	Continue to take readings in this fashion until you reach the end of the space. If all readings show acceptable atmospheric conditions, then the space may be entered by the authorized Entrant(s). (Note: all entrants are to don a personal atmospheric meter to monitor air quality conditions while they are in the space.)

Air Monitoring – During Entry	
Entry Attendant	
✓	Perform air testing with the air meter at least every 10 minutes while the entrant(s) remains inside the space using the same methods used prior to entry.
✓	Direct the entrant(s) to evacuate the space should the meter indicate an unsafe condition.
Entrant(s)	
✓	Continue to perform the work until complete as long as atmospheric conditions are acceptable.
✓	Evacuate the space if the personal air meter alarms or if the entry attendant directs them to evacuate immediately.
Air Monitoring – Post Entry	
Entry Attendant	
✓	Perform a post-calibration of the meter(s) and note those reading on the permit.
✓	Review the permit for completeness, sign and submit it to the entry supervisor.
Entry Supervisor	
✓	Review and sign the permit and submit a copy to the EHS Department.

11.0 Training

Employees that perform work in or around confined spaces are required to receive confined space training. The extent of training depends on an employee's job duties

Training is required:

- Before there is a change in assigned duties.
- Whenever there is a change in confined space operations that presents a hazard about which an employee has not previously been trained.
- Whenever there is reason to believe that there are deviations from the entry checklists or inadequacies in the use of the related procedures.
- When the EHS Office deems there are inadequacies in the way the program is being implemented.

11.1 Levels of Training

EHS provides varying levels of training depending on an employee's job responsibilities.

- **Level 1 – Confined Space Awareness Training**

All employees who enter areas where there are confined spaces are to be informed of the existence, location, and danger posed by the non-permit and/or permit-required confined space. Employees involved with confined space entry must understand how this program functions, how to use this program properly, and what steps they must take to safely enter the confined spaces in accordance with the provisions set forth in this program. This training is required before the employee is first assigned duties related to non-permit or permit-required confined space entry. This level of training is available for individuals such as maintenance personnel, inspectors, project managers and any personnel performing work within a Non-Permit Required Confined Space.

- **Level 2 – Permit Required Confined Space Training**

This required secondary training level would include the components of Level 1 training in addition to hands on familiarity of equipment and procedures involved with Permit Required Confined Spaces. Personnel who would require this training would be those specific workers who are assigned the duties of the entry attendant or entry supervisor.

- **Documentation**

Confined space training records will be maintained by EHS and will include training date, employee name, department and a summary of training provided.

12.0 Rescue and Emergency Services

An emergency is an event in or near the permit space that could endanger entrants. When planning any entry, the availability of adequate rescue and emergency services must be ensured. Not all local fire and emergency resources where ISU facilities exist can provide effective responses to confined space emergencies. ISU departments must plan their entry and communicate with ISU's Public Safety, and EHS department or local fire department prior to entry to determine available rescue resources and seek alternatives when local resources are insufficient. This information is documented on the permit.

Rescue and emergency services must evaluate the entry conditions and space to determine if their rescue service is within the scope of what is needed for safe rescue from the space. Complicated entries, such as restricted entry hatches, deep entries, etc. will require advance planning.

13.0 Reviews

13.1 Post-Entry Review

EHS and/or the department will review specific entry operations under the following circumstances:

- Unauthorized entry.
- Detection of hazards not addressed on a permit.
- A condition prohibited by the permit occurs during entry.
- An injury or near-miss occurs during entry.
- A change in the use or configuration of a permit space.
- Complaints of the effectiveness of entry procedures.
- Subsequent entries will not be authorized until the review is completed with all necessary revisions made.

13.2 Annual Program Review

The Confined Space Program and Plan will be reviewed annually. This review will include an evaluation of all permits from the previous 12 months and a review of the effectiveness of processes and procedures.

14.0 Appendices

Appendix A – Definitions

"Acceptable Entry Conditions" means 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" means 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" means an employee who is authorized by the employer to enter a permit space.

"Blanking or Blinding" means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

"Confined Space" means a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- 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
- Is not designed for continuous employee occupancy.

"Double Block and Bleed" means 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" means 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" means 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" means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

"Entry Permit (permit)" means the written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in paragraph (f) of this section.

"Entry Supervisor" means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section. (NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.)

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

- Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).
- Airborne combustible dust at a concentration that meets or exceeds its LFL. (NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.)
- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
- Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, which could result in employee exposure in excess of its dose or permissible exposure limit; (NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.)
- Any other atmospheric condition that is immediately dangerous to life or health. (NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200 of this Part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.)

"Hot work permit" means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

"Immediately Dangerous to Life or Health (IDLH)" means 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. (NOTE: Some materials -- hydrogen fluoride gas and cadmium vapor, for example -- may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.)

"Inerting" means 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" means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

"Line breaking" means 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" means 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" means an atmosphere containing less than 19.5 percent oxygen by volume.

"Oxygen enriched atmosphere" means an atmosphere containing more than 23.5 percent oxygen by volume.

"Permit-required confined space (permit space)" means 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.
- Contains any other recognized serious safety or health hazard.

"Permit Required Confined Space Plan (Confined Space Plan)" means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

"Permit system" means 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" means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

"Rescue service" means the personnel designated to rescue employees from permit spaces.

"Retrieval system" means 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 by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space. (NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.)

[Appendix B - Confined Space Evaluation Form](#)

[Appendix C - Confined Space Entry Permit](#)

[Appendix D - Alternate Confined Space Entry Form](#)

[Appendix E - Temporary Permit Required Confined Space Reclassification Form](#)