

OPS-SP-0012

Confined Space Policy

Revision History				
Rev	Date	Document Owner	Approved By	Issue Purpose
0	09/12/2022	R. Courtney	JC	Create new policy
1	06/05/2026	R. Strahan	RS, RG, NR	Update policy to separate by topic and content
2	07/13/2026	R. Strahan	RS, RG, NR	Modify verbiage to align with Excavation policy
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Table of Contents

1 Purpose	4
2 Scope	4
3 Definitions	4
3.1 Attendant	4
3.2 Authorized Entrant	4
3.3 Confined Space	4
3.4 Confined Space Rescue Team (CSRT)	4
3.5 Confined Space Entry Permit	5
3.6 Continuous Monitoring	5
3.7 Barrier	5
3.8 Designee	5
3.9 Direct Reading Instrument	5
3.10 Entry	5
3.11 Entry Supervisor	5
3.12 Hazard	5
3.13 Hazardous Atmosphere	5
3.14 Immediately Dangerous to Life or Health (IDLH)	6
3.15 Inerting	6
3.16 Non-Permit Required Confined Space	6
3.17 Oxygen Deficient Atmosphere	6
3.18 Oxygen Enriched Atmosphere	6
3.19 Permit-Required Confined Space	6
3.20 Periodic Monitoring	6
3.21 Rescue	6
3.22 Self-Rescue	7
3.23 Toxic Atmosphere	7
4 Responsibility	7
4.1 Manager or Supervisor	7
4.2 Affected Employee	7
4.3 Authorized Entry Supervisor	7
4.4 Authorized Attendant Duties	8
4.5 Authorized Entrant Duties	8
4.6 HSE Manager	9

4.7 Competent Person	9
4.8 Multi-Employer Roles	9
5 Confined Spaces	10
6 Non-Permit Confined Space Entry	10
7 Permit-Required Confined Space Entry	11
7.1 Evaluate the Confined Space	11
7.2 Ensure All Protections are in Place	11
7.3 Conduct Atmospheric Testing.....	11
7.4 Complete the Confined Space Permit and Pre-Job Briefing	11
7.5 Working in a Permit Required Confined Space	12
7.6 Close Out Confined Space Permit.....	12
7.7 Pre-Entry Safety Meeting.....	13
7.8 Equipment.....	13
7.9 Ventilation.....	13
8 Rescue and Emergency Services.....	14
8.1 Means of Communication Used to Summon Rescue	14
8.2 General	14
8.3 Permit-Required Confined Space Rescue	14
9 Training	14
9.1 Frequency of Training	15
9.2 Entry Team	15
9.3 Employee Retraining.....	15
10 References	16
11 Appendix A – Confined Space Classification Table	17

1 Purpose

The purpose of this Confined Space Policy is to establish minimum requirements and responsibilities to protect the safety and health of Ampirical Solutions employees and contractors who work in or in connection with confined spaces. This policy is intended to ensure compliance with all applicable federal, state, and local confined space regulations, as well as the confined space requirements of host clients and project sites.

2 Scope

This policy applies to all Ampirical Solutions employees and subcontractors involved in confined space entry. When working on client sites, the client's policy takes precedence unless it is less stringent or non-existent, in which case Ampirical Solutions' policy will be used. This policy provides minimum safety requirements to be followed while entering, exiting, and working in confined spaces at ambient atmospheric pressure in accordance with 29 CFR 1910.146 and 29 CFR 1926 Subpart AA.

3 Definitions

3.1 Attendant

- An individual stationed outside one or more confined spaces who monitors the authorized Entrants and who performs all Attendant's duties assigned in the Ampirical Solutions Confined Spaces Policy. Attendants must have sufficiently completed and fully understand the Confined Space training and is approved by the HSE Manager to work in a confined space as an Attendant.

3.2 Authorized Entrant

- An individual who is authorized by Ampirical Solutions to enter a confined space. Entrants must have sufficiently completed and fully understand the Confined Space training and is approved by the HSE Manager to work in a confined space as an Authorized Entrant.

3.3 Confined Space

- A space that meets the following 3 elements:
 - Is large enough and so configured that an employee can bodily enter and perform assigned work.
 - Has limited or restricted means for entry or exit (for example, tanks, vessels, coolers, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).
 - Is not designed for continuous employee occupancy.

3.4 Confined Space Rescue Team (CSRT)

- A professionally trained 3rd party qualified to perform confined space rescue operations when employees enter a permit required confined space. The CSRT must be approved by the Project HSE Manager.

3.5 Confined Space Entry Permit

- A confined space entry permit must be completed before entering a permit required confined space. When workers from multiple employers are working in a permit space, procedures must be implemented to ensure workers from one employer do not endanger workers of another.

3.6 Continuous Monitoring

- The uninterrupted use of a direct reading instrument to monitor a confined space.

3.7 Barrier

- A physical obstruction that blocks or limits access to an area.

3.8 Designee

- Someone the employer explicitly assigns or approves to perform certain tasks or to be present in specific work areas.

3.9 Direct Reading Instrument

- A real-time air monitoring device used to verify suitable atmospheric conditions for confined space entry.

3.10 Entry

- The action by which a person passes through an opening into a 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 confined space.

3.11 Entry Supervisor

- The person responsible for determining if acceptable entry conditions are present at a confined space where entry is planned, for authorizing entry and overseeing entry operations, as well as terminating entry as required by this section.

3.12 Hazard

- A condition, potential condition, or inherent characteristic of an activity or circumstance that can produce injury, illness, death, or property damage.

3.13 Hazardous Atmosphere

- An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a confined space), injury, or acute illness from one or more of the following causes:
 - Flammable gas, vapor, or mist in excess of 0 percent of its lower explosive limit (LEL).
 - Atmospheric oxygen concentration is below 19.5 percent or above 23.5 percent, (20.9 % is normal) .
 - Carbon Monoxide readings in excess of 24 PPM .
 - Any other atmospheric condition that is immediately dangerous to life or health .
 - Toxic substances in excess of OSHA PELs or other recognized organizations' limits if an OSHA PEL does not exist.

3.14 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 confined space.

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

3.15 Inerting

- The displacement of the atmosphere in a permit space by non-combustible gas (such as nitrogen) to such an extent that the resulting atmosphere is non-combustible. This procedure produces an IDLH oxygen deficient atmosphere.

3.16 Non-Permit Required Confined Space

- A confined space that meets the definition of a confined space but does not meet the requirements of a permit required confined space due to its lack of hazardous atmosphere, potential for engulfment, internal configuration causing hazardous conditions, or any other serious safety or health hazards.

3.17 Oxygen Deficient Atmosphere

- An atmosphere containing less than 19.5 percent oxygen by volume.

3.18 Oxygen Enriched Atmosphere

- An atmosphere containing more than 23.5 percent oxygen by volume.

3.19 Permit-Required Confined Space

- A confined space that has one or more of the following characteristics:
 - Contains or has the 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.

3.20 Periodic Monitoring

- The use of a direct reading instrument to monitor a confined space at fixed intervals (at a minimum every hour).

3.21 Rescue

- Assistance in exiting the confined space by providing assistance to the entrant by the rescuer(s) to effectively exit from the space.

3.22 Self-Rescue

- 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.

3.23 Toxic Atmosphere

- An atmosphere containing a concentration of a substance above the OSHA PEL or otherwise known acceptable levels.

4 Responsibility

4.1 Manager or Supervisor

- Shall ensure that all employees have been trained and fully understand the requirements of this policy.
- Shall provide the necessary equipment to comply with these requirements and ensure that all employees are trained in its use.
- Shall ensure an annual review of the policy, including all entry permits issued that during that annual period.

4.2 Affected Employee

- Shall attend Confined Space Entry training commensurate with their duties and when duties change as required.
- Shall comply with all aspects of the permit required confined space policy.

4.3 Authorized Entry Supervisor

- Shall have a pre-job safety brief, with all workers to be involved in the confined space entry and review the job to be performed and what safety concerns may be present.
- Shall confirm that all energy isolation has been completed prior to entry into a confined space.
- Shall ensure that the requirements of this policy are followed and maintained.
- Shall test atmospheric conditions prior to entry.
- Shall complete and maintain the confined space permit form and have always it accessible for review on the job site.
- Validate that the rescue team is in place before the entry is made.
- Shall ensure that area lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency.
- Entry Supervisors must have sufficiently completed and fully understand the confined space training and is approved by the HSE Manager to work in a permit required confined space.
- An Entry Supervisor 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.
- Shall ensure that all confined space assessments have been conducted and documented.
- Shall ensure that all Permit-Required Confined Spaces permits are posted.
- Shall ensure that all confined spaces have been identified with signs that state “Danger – Permit Required Confined Space, Do Not Enter” or other similar language.

4.4 Authorized Attendant Duties

- An attendant is stationed outside a confined space while it is occupied by workers. At least one attendant must be stationed outside a permit required confined space for the duration of entry operations. If multiple spaces are to be monitored by a single attendant, he/she must have the means to respond to an emergency in one space while continuing line of sight oversight of the others, or he/she must be relieved by another individual.
- Attendant may also perform the duties of a fire watch if trained.
- Shall verify the area lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency.
- Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Is aware of possible behavioral effects of hazard exposure in authorized Entrants.
- The attendant must document the atmospheric testing (whether periodic, or continuous) each hour on the confined space permit in the Atmospheric Monitoring Log section.
- Continuously maintains communication and an accurate count of authorized Entrants in the confined space. Also ensures that the means used to identify authorized Entrants accurately identifies who is in the confined space.
- Monitors activities inside and outside the confined space to determine if it is safe for Entrants to remain in the space and orders the authorized Entrants to evacuate the confined space immediately under any of the following conditions:
 - If the Attendant detects a prohibited condition.
 - If the Attendant detects the behavioral effects of hazard exposure in an authorized entrant.
 - If the Attendant detects a situation outside the space that could endanger the authorized Entrants.
 - If the Attendant cannot effectively and safely perform all the duties required in this section.
- Shall notify Ampirical Solution supervisor of entry into a confined space and notify the supervisor of any changes that may occur during an entry.
- Summon CSRT and other emergency services as soon as the Attendant determines that authorized Entrants may need assistance to escape from confined space hazards.
- Takes the following actions when unauthorized persons approach or enter a confined space while entry is underway:
 - Warn the unauthorized persons that they must stay away from the permit space.
 - Advise the unauthorized persons to exit the confined space immediately, if they have entered the space.
 - Inform the authorized Entrants and the Entry Supervisor if unauthorized persons have entered the confined space; and
 - Performs no duties that might interfere with the Attendant's primary duty to monitor and protect the authorized Entrants.

4.5 Authorized Entrant Duties

- Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Uses appropriate personal protective equipment properly, e.g., face and eye protection, and other forms of barrier protection such as gloves, aprons, coveralls, and breathing equipment.

- Is aware of possible behavioral effects of hazard exposure in authorized entrants.
- Shall witness and verify calibrated air monitoring data and, if approved, sign off before entry is made.
- Is entitled to request additional monitoring at any time.
- Maintain communication with the Attendants to enable the Attendant to monitor the Entrants status as well as to alert the Entrant to evacuate if needed; and to check in with the attendant or ask for rescue.
- Exit from confined spaces as soon as possible when ordered by an Attendant or Entry Supervisor, when the Entrant recognizes the warning signs or symptoms of an environmental or atmospheric exposure exist, when a prohibited condition exists, or when an alarm is activated.

4.6 HSE Manager

- Ensure procedure complies with all local, state, and federal regulations.
- Ensure that permits are kept on file for at least one year.
- Shall perform an annual review of all retained confined space permits for deficiencies.
- Must make revisions to procedures, training, or equipment to prevent recurrence from lessons learned during the annual permit review.
- HSE Manager must perform annual audit/evaluation to review the “Confined Space Policy in its entirety to ensure compliance with applicable federal, state, and local regulations.

4.7 Competent Person

- Is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees.
- Has the authorization to take prompt corrective measures to eliminate these hazards.

4.8 Multi-Employer Roles

- Host is the employer that owns or manages the property where the construction work is being performed.
- Controlling Contractor is the employer that has overall responsibility for construction at the worksite:
 - Ensuring all employers entering a space exchange hazard information.
 - Coordinating scheduling so simultaneous entries do not create new hazards.
 - Ensuring rescue services and communication systems work for all employers.
 - Verifying that entry operations do not conflict with each other’s procedures.
- Entry Employer is the employer who decides that its employees will enter a permit-required confined space, and is therefore responsible for ensuring:
 - Entry supervisors are qualified and understand the hazards.
 - All required testing, procedures, and equipment are in place before entry.
 - Must provide the services of a CRST before entry into the permit required confined space.
 - Unauthorized individuals are removed from entry areas.
 - Entry operations remain consistent with permit conditions.

5 Confined Spaces

A confined space is a space that meets all 3 of the following elements: is large enough and so configured that an employee can bodily enter and perform assigned work, has limited or restricted means for entry or exit (for example, tanks, vessels, coolers, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry), and is not designed for continuous employee occupancy.

- If a space meets the requirements of a confined space, then it must be classified as either a non-permit required confined space or a permit required confined space.
- A non-permit required confined space is a confined space that meets the definition of a confined space but does not meet the requirements of a permit required confined space due to its lack of hazardous atmosphere, potential for engulfment, internal configuration causing hazardous conditions, or any other serious safety or health hazards.
- A permit required confined space is a confined space that has one or more of the following characteristics:
 - Contains or has the 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.
- Once classification has been determined, the appropriate steps and/or forms must be completed for each. The Confined Space Evaluation Form can be utilized to help determine whether a space is a Confined Space or not, and whether it is Permit or Non-Permit Required Confined Space.

6 Non-Permit Confined Space Entry

- Documented atmospheric testing with a direct reading instrument is required to validate that there is no hazardous atmosphere present. Employees may only enter the non-permit required confined space if LEL 0%, O₂ between 19.5-23.5%, CO less than 24ppm, and no other hazardous atmosphere considerations are present.
- Additional documented atmospheric testing is required if the space is unattended or vacated for more than 30 minutes.
- Entrants and/or their representatives shall be given the opportunity to observe and participate in the air monitoring process.
- Ensure that vehicle or other equipment exhaust does not enter the confined space.
- When there are changes in the use and configuration of a confined space that might increase the hazards to the Entrants (e.g., using epoxy coatings, welding, painting, etc.), re-evaluate the space. If necessary, reclassify the space as a Permit-Required Confined Space.
- Examples of typical non-permitted Confined Spaces:
 - Equipment closets
 - Ventilated tunnels
 - Crawl space under a house
 - Transformer containment pits/sum pump

- Excavations greater than 4 feet in depth

Note: Refer to OPS-SP-0017 Excavation and Trenching Policy for additional excavation requirements.

7 Permit-Required Confined Space Entry

7.1 Evaluate the Confined Space

- Contains or has the 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.
- If the confined space contains one or more of these elements, then the space is a Permit Required Confined Space. If it does not have one or more of these elements, then it is a Non-Permit Required Confined Space and the Non-Permit Required Confined Space section of the procedure must be followed.

7.2 Ensure All Protections are in Place

- The entry Supervisor must ensure that the confined space is properly isolated by blinding, disconnecting, and/or by following local Lockout/Tagout procedures to ensure no energy may enter the space at any time.
- Promptly guard the opening to prevent an accidental fall through the opening and to protect each employee working in the space from foreign objects entering the space.
- If applicable, wash, steam, ventilate or degas the confined space to properly free it of possible contaminants. Vent vapors to a safe location.
- Ensure an adequate JSA and evaluation of the hazards of the space and the work being performed has taken place.

7.3 Conduct Atmospheric Testing

- Atmospheric testing with a direct reading instrument is required to validate that there is no hazardous atmosphere present. Top, middle, and bottom of a confined space must be monitored to ensure that there is no hazardous atmosphere present throughout the entire space. Attachments such as wands or tubing must be connected to ensure accurate readings take place without breaking the plane of the confined space. Manufacturer directions for time monitored must be followed to ensure an accurate reading.
- All direct reading instruments for atmospheric monitoring must be function tested at least daily and calibrated at least monthly unless the manufacturer specifies different intervals.
- Employees may only enter the permit required confined space if LEL 0%, O₂ between 19.5-23.5%, CO less than 24ppm, and no other hazardous atmosphere considerations are present.
- Entrants and/or their representatives shall be given the opportunity to observe and participate in the air monitoring process.

7.4 Complete the Confined Space Permit and Pre-Job Briefing

- Document the atmospheric testing that took place before entry.

- Entry Supervisor completes the confined space permit.
- A pre-job safety briefing discussing the hazards and controls of the work and the confined space itself must take place as well as a review of the Emergency Action Plan before the permit is issued.
- Attendant must sign the permit for the confined space before the permit is active.
- Entrants shall review and sign the confined space permit before entering.

7.5 Working in a Permit Required Confined Space

- At least one trained Attendant must always be outside the Permit-Required Confined Space.
- The Attendant must continuously monitor the atmospheric conditions and the Authorized Entrants for the duration of the entry operation.
- Only authorized Entrants may enter a Permit-Required Confined Space.
- All Entrants must sign in and out on the entry permit when entering and leaving a Permit-Required Confined Space.
- Ensure that all Permit Required Confined Spaces have been identified with signs that state “Danger – Permit Required Confined Space, Do Not Enter” or other similar language.
- Ensure barricades are in place once the space is vacated.
- If permit conditions change (i.e., a hazardous atmosphere is detected during an entry; unsafe behaviors/conditions observed) personnel must immediately evacuate the space and:
 - The Entry Supervisor shall cancel the entry permit and involve the Safety Department before any further actions are taken.
 - Re-evaluate the space to determine how the hazardous atmosphere developed and document findings.
 - Take action to protect personnel before any subsequent activity to re-enter the space that takes place and document the controls implemented.
 - Re-issue the Confined Space Entry Permit before allowing Entrants to re-enter the space.
 - Employees or their representatives are entitled to request additional monitoring at any time.
- All hot work performed in the confined space will make it a permit required confined space; precautions must be taken consistently with the Hot Work Permit procedure. A Hot Work Permit is required when Hot work is being conducted in a confined space. Forced air mechanical ventilation is required to prevent the buildup of welding/torch cutting fumes, and the possible accumulation of shielding gases. A direct reading instrument shall be used to continuously monitor the atmosphere to ensure safe atmospheric quality.

7.6 Close Out Confined Space Permit

- All entrants must exit the space after work is complete or their shift has ended; the Attendant must verify this visually and by validating on the Entry/Exit Log.
- Ensure the space is secured against unauthorized re-entry.
- No further entry is authorized without a new permit being issued.
- Retain the permit, turn into the Safety Dept or their designee and:
 - Retain the canceled or closed permit for 1 year.
 - Record all deficiencies on the permit encountered with the Permit Required Confined Space.

- Use these notes to revise and improve the confined space policy.
- Conduct an annual review using the collection of canceled permits, updated procedures, training, or equipment to prevent recurrence of any deficiencies.

7.7 Pre-Entry Safety Meeting

- The Entry Supervisor must declare when the confined space is ready for entry.
- The Entry Supervisor shall hold a pre-entry safety meeting to discuss all requirements and procedures with all authorized Entrant(s) and Attendant(s) involved with the entry. He/she will discuss other concerns such as previous contents, vessel coating, PPE required etc., during this meeting.
- The Entry Supervisor must coordinate entry operations when employees of more than one Ampirical Solutions are working simultaneously in the confined space. This coordination is necessary so that one Ampirical Solution's work does not endanger the employees of another Ampirical Solutions.

7.8 Equipment

- Check all work equipment to ensure that it has the proper safety features and is approved for the locations where it will be used. The Entry Supervisor must ensure that all equipment is properly maintained in a safe condition and that Entrants use the equipment properly.
- The following equipment must be considered and may be required when entering a confined space:
 - Atmospheric Testing and Monitoring Equipment.
 - Entry and Exit Equipment – (For example: ladders may be needed for safe entry and exit).
 - Lighting Equipment – Needed for safe entry, work within the space and exit. Lighting equipment used in the confined space must be certified safe for the location.
 - Personal Protective Equipment – Ensure that personnel wear the required personal protective equipment. For respiratory protection requirements, refer to the Respiratory Protection Program.
 - Communications Equipment – Only use intrinsically safe equipment in areas where a hazardous atmosphere may exist. Use a communication system that will keep the Attendant in constant, direct communication with the Entrant(s) working in the confined space. Also, use a communication system that allows the Attendant to summon help from rescue or emergency services.

7.9 Ventilation

- Continuous forced air ventilation must be used and tested as follows:
 - Air movers or other means of introducing air into the space shall be placed in such a manner to minimize the possibility of introducing air contaminants, which may create unacceptable limits (e.g., carbon monoxide).
 - If welding, cutting, and/or brazing takes place inside a Confined Space, ventilation shall provide a minimum of 2000 cfm per welder. If a minimum of 2000 cfm cannot be achieved or maintained, each person inside the Confined Space shall wear fresh air.
 - If natural ventilation is used, it shall be documented on the ventilation plans.
 - The air supply for ventilation shall be from a clean source and may not increase the hazards in the space.

- Ventilation shall be maintained during the entire entry.
- Ventilation equipment shall be bonded and grounded to eliminate static energy. Ductwork shall not cause tripping hazards or blocked exits. The Entry Supervisor shall ensure the ventilation system reflects sound ventilation principles of supplying enough clean make-up air and controlling the exhaust to prevent creating hazards in other areas.

8 Rescue and Emergency Services

8.1 Means of Communication Used to Summon Rescue

- Procedures for summoning rescue and emergency services must be developed and implemented to perform rescue, to provide necessary emergency services to rescued employees, and to prevent unauthorized personnel from attempting a rescue. Communications to be used includes radios and telephones based on the location.

8.2 General

- Rescue personnel are readily available to respond to a confined space emergency. These services shall be provided by an approved third party that specializes in confined space rescue. Local fire departments may not be used as a confined space rescue.

8.3 Permit-Required Confined Space Rescue

- When the Attendant becomes aware of the need for rescue, the Attendant shall immediately summon the onsite rescue team by the agreed upon communication method, verbally, radio or cell phone, without leaving the vicinity of the confined space.
- The Attendant shall prevent unauthorized personnel from attempting a rescue.
- After the rescue team has been notified, the Attendant shall alert the Entry Supervisor of the emergency via the same communication methods.
- The preferred means of providing rescue service is through the use of the approved qualified outside rescue service vendor.
- The outside rescue service vendor must be:
 - Informed of the hazards that they may confront during a rescue.
 - Provided access to the Permit-Required Confined Space to examine the entry site, practice rescue, and decline as appropriate.
 - Access to the confined space allows the rescue service and local supervision to jointly develop appropriate rescue plans.

9 Training

Each affected employee must be trained prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created, or special deviations have occurred. Before beginning work at a worksite, Ampirical Solutions must ensure that a competent person identifies all confined spaces in which one or more of their employees may work, and identifies each space that is a permit space, through consideration and evaluation of the elements of that space, including testing as necessary. Training records must be documented and made available to employees and their authorized representative(s).

9.1 Frequency of Training

- Before the employee is assigned to this role.
- Before there is a change in role or duties.
- When there is a change in the permit operations that introduces a hazard that was not previously known.
- When the employees show a deficiency in their knowledge and skills associated with their assigned Entry Team Role.
- Training shall be developed to provide the knowledge and skills in accordance with this procedure and will be revised to reflect deficiencies and new regulatory requirements.

9.2 Entry Team

- The Entry Team shall be trained to acquire the understanding, knowledge, and skills necessary to perform their role.
- Employees assigned to the Entry Team shall be certified through the following process:
 - Entry Supervisor shall be certified through the Permit Writer Certification.
 - Attendants shall be certified by their employer. Each employer shall be able to provide certification documentation upon request.
 - Entrants shall be certified by their employer. Each employer shall be able to provide certification documentation upon request.

9.3 Employee Retraining

- Whenever there is a change in confined space operations that presents a hazard about which an employee has not previously been trained.
- Whenever the supervisor has reason to believe either that there are deviations from the permit space entry procedures required by this section or that there are inadequacies in the employee's knowledge or use of these procedures.

Role	Required Training Topics	Training Frequency	Key OSHA Requirements / Duties
Awareness-Level Employee (Non-Authorized)	• Definition of confined spaces and PRCS hazards (atmospheric, engulfment, entrapment) • Understanding signage and purpose of preventing unauthorized entry	• Initial assignment • As conditions or job duties change	• Must understand why they must not enter PRCS and recognize dangers near confined spaces
Authorized Entrant	• Hazard recognition (atmospheric, toxic, flammable, engulfment) • Proper PPE Requirements • Communication with attendant & maintaining contact at all times • Emergency exit triggers (alarm, symptoms, hazardous conditions)	• Before first assignment • When duties change • When new hazards are introduced • When procedures are not followed or deficiencies observed	• Safely enter PRCS • Recognize and respond to hazards • Exit immediately when directed or unsafe conditions arise
Attendant	• Monitoring entrants and maintaining continuous communication • Recognizing developing hazards inside/outside the space • Performing non-entry rescue actions only • Preventing unauthorized persons from entering the area	• Initial and refresher as needed under 1910.146(g) (changes, hazards, deficiencies)	• Never enter the space • Continuous monitoring and hazard observation • Initiate emergency response from outside only
Entry Supervisor	• Verifying hazard control measures (LOTO, ventilation, atmospheric testing) • Permit authorization, cancellation, and termination procedures • Ensuring all roles are trained and conditions remain safe	• Initial and whenever duties or permit procedures change	• Authorize/terminate entry • Maintain safe entry conditions • Oversee entire PRCS operation

10 References

OSHA Regulations 29 CFR 1910.46/1926.1203
Confined Space Entry Permit

11 Appendix A – Confined Space Classification Table

Parameters	Class A	Class B	Class C
Characteristics	Immediately Dangerous to life and health – rescue procedures require the entry of more than one individual fully equipped with life support equipment - maintenance of communication requires an additional standby person stationed withing the confined space	Dangerous, but not immediately life threatening – rescue procedures require the entry of one or more than one individual fully with life support equipment – indirect visual or auditory communication with workers	Potential hazard - requires no modification of work procedures – standard rescue procedures – direct communication with workers, from outside the confined space
Oxygen	16% or less	16.1% to 19.4% or greater than 23.6%	19.55% - 23.5%
Flammability Characteristics	20% or greater of LOL	105 – 19% LEL	0% LEL
Toxicity	Immediately Dangerous to Life or Health (IDLH)	Greater than contamination level, reference in appendix B's Occupational Exposure Limit Column	Less than contamination level referenced in Appendix B's Occupational Exposure Limit Column