



Confined Space Policy

Health and Safety FCX-HS05 | Version 1 | Release 03/2018

POTENTIAL FATAL RISKS

Exposure to Hazardous Substances
Entanglement and Crushing
Uncontrolled Release of Energy

CRITICAL CONTROLS

Atmospheric Monitoring
Ventilation
Energy Isolation
Entry Permit Execution

A Confined Space is a space that meets all three of the below conditions:

1. Is large enough and so configured that a person can enter with their whole body and perform their assigned work
2. Has a limited or restricted means of entering and exiting (a configuration that would impede a person ability to self-rescue)
3. Is not designed for continuous occupancy (i.e. an individual could not occupy the space during normal operating conditions)

TRAINING REQUIREMENTS

Awareness Training for all employees
Initial Training
Annual Refresher Training
Remedial Training as required

POLICY

OVERVIEW

The Confined Space Policy establishes the requirements and performance standards needed to protect employees and contractors from hazards associated with confined space and to safely enter to perform work in confined spaces.

Permit Required Confined Spaces (PRCS) are confined spaces that have one or more of the following characteristics:

1. Contains or has the potential of containing a hazardous atmosphere
2. Contains a material that has the potential for engulfing an entrant
3. 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
4. Contains any other recognized serious safety or health hazard

NOTE: Permits are valid only for as long as it takes to complete the task, but not more than one shift.

ACTIONS TO STAY SAFE

The following requirements must be met when FCX employees or contractors are entering confined spaces on FCX properties:

- Evaluate confined space using the permit to determine if the space is a permit required confined space, retain documentation
- Verify, understand and abide by Confined Space Permit requirements
- Monitor atmospheric condition periodically throughout the entry
- Entrant(s) have the right to observe pre-entry atmospheric test
- Identify and control the hazards within the confined space
- Use proper ventilation
- Understand and abide by assigned roles and responsibilities of confined space entry team
- Establish a communication process with entrant(s)
- Evacuate space immediately at established alarm condition, atmospheric monitor failure, or any uncontrolled/unanticipated change in condition
- Retrieval lines for non-entry rescue (attached to harness, wristlet, or other device) must be worn in Permit Required Confined spaces.

A confined space entry team is the group of individuals assigned to complete a task within a confined space. A typical entry team consists of three roles: entrant, attendant, and entry supervisor. For any Permit Required Confined Space (PRCS) entry, a

minimum of two individuals are necessary. These individuals will be classified as either the:

- Entrant (individual entering the confined space)
- Attendant (the individual staying outside and monitoring the confined space)

A person will also be designated as the entry supervisor (the attendant may serve as the entry supervisor, but the supervisor may never serve as the entrant) and will be responsible for the confined space entry and ensuring that all safety precautions have been met.

Regardless of the role, all entry team members, attendants, entrants and entry supervisors, must understand the following:

Responsibilities and Duties of the Entry Supervisor:

- Define all Risks and Controls
- Establish in writing all acceptable entry conditions
- Conduct a pre-entry meeting with all confined space team members
- Ensure that the atmospheric tests is conducted and recorded
 - To classify the space
 - Conducted immediately prior to entry
 - Continued throughout the entry if required
- Ensure all members have been trained in Confined Space entry
- Ensure that rescue services are notified and available, and that the means for summoning them are operable
- Ensure acceptable entry conditions are in place before anyone enters the space and that conditions remain safe throughout the entry
- Maintain the confined space permit:
 - Authorize entry by signing the entry permit after all conditions for safe entry have been met
 - Post the completed, signed permit at the entrance to the space
 - Terminate the entry and cancel the permit when entry operations are complete or when uncontrolled hazards arise in or near the permit space
 - File the original canceled permit with the appropriate department
- If hazardous conditions arise that are Immediately Dangerous to Life and Health (IDLH), immediately evacuate the space

Responsibilities and Duties of the Attendant:

- Control access to the PRCS:
 - Maintain an accurate count of entrants
 - Do not allow unauthorized entry
- Communicate with the authorized entrants
- Monitor entrant(s) activities and conditions
- Maintain retrieval lines/system
- Stop work and evacuate the space if:
 - A non-acceptable entry condition occurs
 - Behavior changes in the entrant(s)
 - Outside conditions arise that may endanger the entry team
 - The air monitor alarms
 - Any new or uncontrolled hazards are introduced
- Manage emergencies
- Attendant may not perform any other duties

Responsibilities and Duties of the Entrant(s):

- Communicate with the Attendant
- Inspect for hazards within the space
- Stop work and evacuate the space if:
 - Air monitor alarms
 - Air monitor stops functioning normally
 - Uncontrolled hazard is suspected or observed
 - Any entrant experiences signs or symptoms of exposure to hazards
 - Communication link between the entrant and attendant is broken
 - Conditions outside the space threaten the entrants or attendant
 - Attendant calls for an evacuation
- Wear designated PPE



Technical Supplement

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ATMOSPHERIC TESTING & MONITORING

Atmospheric testing is required for two distinct purposes:

1. Evaluation of the hazards of the permit space; and
2. Verification that acceptable entry conditions for entry into that space exist.

Air monitoring equipment will be selected by a qualified individual based on the hazards of the entry. As the monitor's sensors are gas specific, these determinations must be documented with area SOPs/Risk Registers/HIRADC/JSA. Calibration will be performed per the manufacturer's specifications and records will be kept according to the Records Retention Program.

Acceptable Monitoring Levels and Entry Conditions:

- **Oxygen levels:** O₂ levels between 19.5% - 23.5%
 - **Oxygen Deficient** (< 19.5%) is considered hazardous
 - **Oxygen Enriched** (> 23.5%) is considered hazardous
- **Flammable Gases:** Flammable gas concentration less than 10% of the Lower Explosive Limit (LEL) of the flammable gas.
- **Toxicity:** Atmospheric concentration in excess of the occupational exposure limit for any substance that is capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects and which could result in employee exposure in excess of its dose or permissible exposure limit.

Refer to the **FCX IH Field Guide** for more information on exposure limits.

REFERENCES

- 29 CFR 1910.146; Permit-required Confined Spaces
- 29 CFR 1910.146 Appendix B; Procedures for Atmospheric Testing
- 29 CFR 1910.146 Appendix F; Rescue Team or Rescue Service Evaluation Criteria
- 30 CFR 56.16002; Bins, hoppers, silos, tanks, and surge piles
- NSI/ASSE Z117.1-2009; Safety Requirements for Confined Spaces

ADDITIONAL REQUIREMENTS

(1) Evaluation testing. The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise, so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space. Evaluation and interpretation of these results, and development of the entry procedure, should be performed by, or reviewed by, a technically qualified person based on evaluation of all serious hazards.

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

(3) Duration of testing. Follow manufacturer's recommendations for the duration of time the monitor should remain in place for a complete response, analysis times may vary depending on probe length and flow rate.

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

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