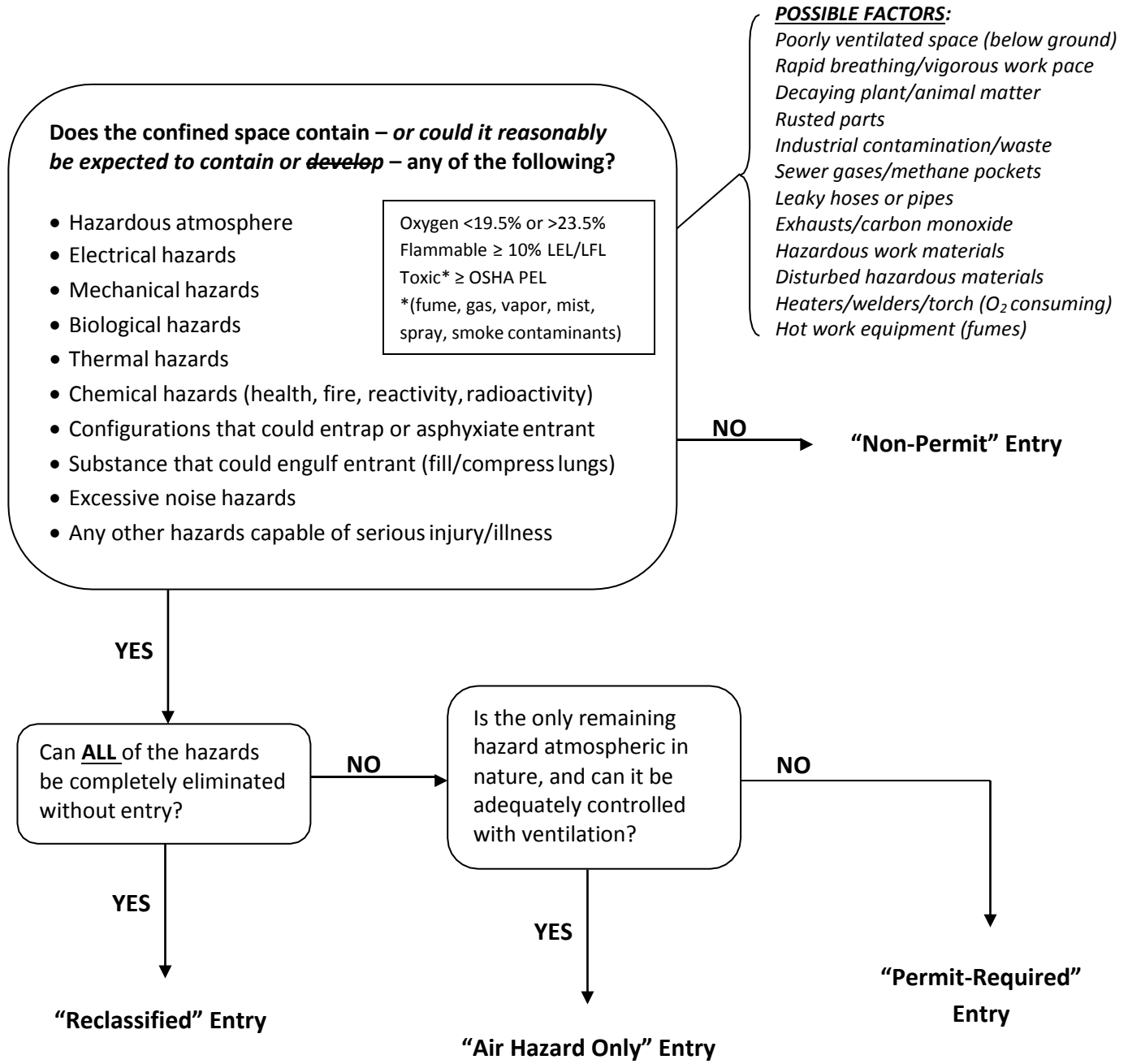


CONFINED SPACE ENTRY PROCEDURE DECISION CHART



Confined Space Entry

Non-Permit Entry Procedure

Pre-Entry

- ┆ Training – Each person involved in a “non-permit” entry must have a minimum of awareness level confined space training.

Throughout Entry

- ┆ Security – Take necessary measures to prevent unauthorized entry into the confined space, particularly during periods when the space will be left unattended.
- ┆ Monitor for changes – All persons involved in the entry shall remain on alert for any changes that could introduce new hazards into the space. Following are examples of changes that could present problems if their effects were not initially considered and evaluated:
 - Changing environmental conditions (air quality, heat, moisture, noise, etc.)
 - New or different confined space hazards encountered
 - New or different work operations required
 - New or different work materials encountered or used
 - New or different use of the confined space other than initially expected
 - Progression of construction in space or of space configuration
- ┆ If changes arise – Immediately evacuate the space and re-evaluate to determine which entry procedure must now be used.

Post-Entry

- ┆ Replace confined space entry cover/door.
- ┆ Report any problems encountered to safety administrator.

Confined Space Entry

Reclassified Entry Procedure

CONDITIONS THAT MUST EXIST FOR THIS PROCEDURE TO BE USED

1. All confined space hazards must be completely eliminated prior to any entry.

NOTE – The use of fresh air ventilation to remove atmospheric hazards does not constitute hazard elimination, but rather hazard control. This procedure cannot be used – the “Air Hazard Only” procedure may apply.

Pre-Entry

- ┆ Training – Each person involved in a “reclassified” entry must have a minimum of awareness level confined space training.
- ┆ Documentation – Before entry may begin, the *Reclassification Form* on the next page must be completed in its entirety and posted at the confined space throughout entry operations.

Throughout Entry

- ┆ Security – Take necessary measures to prevent unauthorized entry into the confined space, particularly during periods when the space will be left unattended.
- ┆ Monitor for changes – All persons involved in the entry shall remain on alert for any changes that could introduce new hazards into the space. Following are examples of changes that could present problems if their effects were not initially considered and evaluated:
 - Changing environmental conditions (air quality, heat, moisture, noise, etc.)
 - New or different confined space hazards encountered
 - New or different work operations required
 - New or different work materials encountered or used
 - New or different use of the confined space other than initially expected
 - Progression of construction in space or of space configuration
- ┆ If changes arise – Immediately evacuate the space and re-evaluate to determine which entry procedure must now be used.

Post-Entry

- ┆ Replace confined space entry cover/door.
- ┆ Submit *Reclassification Form* to safety administrator. This form shall be filed with other entry permits and examined during the next annual review.
- ┆ Report any problems encountered to safety administrator. Also, make note of these issues on the *Reclassification Form*.

Confined Space Entry

RECLASSIFICATION FORM

Date: _____ Person in charge: _____

Name of confined space: _____

All existing and predictable confined space hazards have been eliminated as described below. Upon completing this form and signing below, the person in charge certifies that, to the best of his/her knowledge, the space is now a non-permit space.

Confined Space Hazard

Means of Elimination

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

* **NOTE** – The use of fresh air ventilation to remove atmospheric hazards does not constitute hazard elimination, but rather hazard control. This procedure cannot be used – the “Air Hazard Only” entry procedure may apply.

If changes or conditions arise that present an actual or potential danger to entrants, then entry shall be terminated and the confined space shall be re-evaluated.

Signature of person in charge: _____

Confined Space Entry

Air Hazard Only Procedure

CONDITIONS THAT MUST EXIST FOR THIS PROCEDURE TO BE USED

1. The only confined space hazard is atmospheric in nature, *and*
2. The use of continuous forced air ventilation alone is sufficient to maintain the space safe for entry, *and*
3. Monitoring data supports the fact that the ventilation is sufficient.

Pre-Entry

- └ Training – Each person involved in this entry must have permit-required confined space training.
- └ Air monitor, hazard controls, safety equipment & PPE – The entry supervisor shall verify that the ventilation and air monitoring equipment is functioning properly. Verify that the air monitor's calibration is current, then turn on & zero in clean air and bump test.
- └ Documentation – Before entry may begin, the *Air Hazard Only Entry Form* on the next page must be completed in its entirety and posted at the confined space throughout entry operations. When the space is vacated for more than only few minutes (to retrieve a tool, equipment, etc.), the conditions on the *Air Hazard Only Entry Form* shall be verified prior to allowing re-entry.
- └ Safe access/egress – Provide means to allow safe entry into & exit from the confined space.

Throughout Entry

- └ Security – Take necessary measures to prevent unauthorized entry into the confined space, particularly during periods when the space will be left unattended.
- └ Monitor for changes – All persons involved in the entry shall remain on alert for any changes that could introduce new hazards into the space. Following are examples of changes that could present problems if their effects were not initially considered and evaluated:
 - Changing environmental conditions (air quality, heat, moisture, noise, etc.)
 - New or different confined space hazards encountered
 - New or different work operations required
 - New or different work materials encountered or used
 - New or different use of the confined space other than initially expected
 - Progression of construction in space or of space configuration
- └ If changes arise – Immediately evacuate the space and re-evaluate to determine which entry procedure must now be used.

Post-Entry

- └ Replace confined space entry cover/door.
- └ Submit *Alternate Entry Form* to safety administrator. This form shall be filed with other entry permits and examined during the next annual review.
- └ Report any problems encountered to safety administrator. Also, make note of these issues on the *Air Hazard Only Entry Form*.

Confined Space Entry

AIR HAZARD ONLY ENTRY FORM

Date: _____ Entry supervisor: _____

Name of confined space: _____

This confined space qualifies for entry under the Alternative Entry Procedures as specified by OSHA under 29 CFR 1910.146(c)(5). Upon signing, the entry supervisor certifies that, to the best of his/her knowledge, the following pre-entry safety precautions have been taken:

- ┌ Any conditions making it unsafe to remove access cover have been eliminated.
- ┌ Unprotected entrance openings have been guarded to eliminate fall exposures and to protect entrants against falling object exposures.
- ┌ The confined space atmosphere has been tested (at vertical intervals of 4') prior to entry and it has been found to be safe for entry, either with or without ventilation. Acceptable entry conditions are:
 - Oxygen (O₂) 19.5% to 23.5%
 - Flammables (LFL or LEL) <10%
 - Carbon monoxide (CO) <50 ppm
 - Hydrogen sulfide (H₂S) <20 ppm
 - Chlorine < 1 ppm
 - Ammonia (NH₃) <50 ppm
- ┌ Continual monitoring shall be used to assure that the space remains safe throughout entry.
- ┌ Continuous forced air ventilation, if needed, shall be used as follows:
 - No entry until ventilation removes the hazardous atmosphere.
 - Explosion-proof ventilation will be used if LEL/LFL reading exceeds 75%.
 - The entire occupied space shall be ventilated until exited.
 - Ventilation air source shall come from a clean source.
- ┌ If a hazardous atmosphere develops:
 - Entrants will be ordered to exit the confined space immediately.
 - The confined space must be reevaluated to determine how the hazardous atmosphere developed.
 - New measures will be implemented to protect employees before reentry.
- ┌ All individuals involved in this entry have received permit-required confined space training.

Signature of entry supervisor: _____

Confined Space Entry

Permit-Required Entry Procedure

Pre-Entry

- ┌ Training – Each person involved in this entry must have permit-required confined space training.
- ┌ Assign entry supervisor – The entry supervisor shall be identified by name on the entry permit.
- ┌ Assign entry team – Entry supervisor must identify by name (on the permit) all persons who have been properly trained for and will be involved in the permit-required confined space entry – entrants, attendants & rescue personnel. One person may have multiple roles, however each entry team must have at least two (2) members – no individual can be an entrant and attendant at the same time.

Entry team personnel are to notify the entry supervisor of any physical or psychological issues that could arise during entry and possibly jeopardize safe entry operations. Specifics are not necessary, but any of the following conditions should be reported:

- Chemical sensitivity
- Sensitivity to temperature extremes
- Hearing loss
- Heart or lung ailments
- Claustrophobia
- Vertigo
- Past experiences
- Physical health

If there are doubts in an individual's ability to perform an assigned duty on the entry team, the entry shall not proceed until the issue is remedied.

- ┌ Air monitor, hazard controls, safety equipment & PPE – The entry supervisor shall verify that all equipment called for on the permit, and which may be necessary otherwise, is in place and is functioning properly. Verify that the air monitor's calibration is current, then turn on & zero in clean air and bump test.
- ┌ Documentation – Before entry may begin, the *Confined Space Entry Permit* must be completed in its entirety and posted at the confined space throughout entry operations. Prior to each entry, the entry supervisor must assure that the permit-required space is safe for entry by verifying that all hazard controls, safety equipment and PPE as specified on the permit are in place.
- ┌ Safe access/egress – Provide means to allow safe entry into & exit from the permit-required space.
- ┌ Pre-entry briefing – Immediately before entry, the entry supervisor shall conduct a brief meeting with all entry team personnel to assure that they are aware of:
 - Anticipated scope of work
 - Anticipated hazards that will be encountered & associated hazard control measures
 - Results of atmospheric testing
 - Necessary safety equipment (including PPE) and proper use
 - Rescue plan

Confined Space Entry

Throughout Entry

- ┌ Security – Take necessary measures to prevent unauthorized entry into the confined space, particularly during periods when the space will be left unattended.
- ┌ Monitor for changes – All persons involved in the entry shall remain on alert for any changes that could introduce new hazards into the space. Following are examples of changes that could present problems if their effects were not initially considered and evaluated:
 - Changing environmental conditions (air quality, heat, moisture, noise, etc.)
 - New or different confined space hazards encountered
 - New or different work operations required (not specified on permit)
 - New or different work materials encountered or used
 - New or different use of the confined space other than initially expected
 - Progression of construction in space or of space configuration

The following circumstances would also constitute a “change” that is in need of evaluation.

- Unauthorized entry into the permit space occurs
- Injury, illness or near miss occurs
- Receiving any employee complaint regarding program effectiveness.
- ┌ If changes arise – Immediately evacuate the space. The entry supervisor shall then:
 - Re-evaluate to determine what additional precautions, if any, are needed to assure safe re-entry
 - Brief entry team on the newly encountered hazards and necessary hazard controls.
 - Revise or reissue the entry permit prior to re-entry.
- ┌ Re-entries – Whenever a permit space is vacated during its authorized duration period, the entry supervisor shall take the following actions prior to re-entry:
 - Re-test atmosphere and do not permit re-entry unless conditions are acceptable.
 - Verify that all precautions indicated on the permit are still in place and functioning properly.
 - Verify that the only work that will take place in the space is that work which was initially authorized on the permit.

Post-Entry

- ┌ The entry supervisor shall order all entrants from the permit-required space and conduct a head count.
- ┌ Replace confined space entry cover/door.
- ┌ Submit completed *Confined Space Entry Permit* to safety administrator. This form shall be filed with other entry permits and examined during next annual review.
- ┌ Report any problems encountered to safety administrator. Also, make note of these issues on the permit.

Confined Space Entry

CONFINED SPACE ENTRY PERMIT

GENERAL DATA

Date of Entry: _____ Time Permit Issued: _____ Authorized Duration: _____

Location: _____

Permit Space Description: _____

Authorized Work: _____

Entry Supervisor: _____

Entrant(s): _____

Attendant(s): _____

HAZARD CONTROL REQUIRED

REASON

- | | |
|---|--|
| <input type="checkbox"/> Ventilation | Δ Oxygen deficient Δ High LEL/LFL Δ High CO Δ High H ₂ S
┆ Hot work Δ Other: _____ |
| <input type="checkbox"/> Lockout/tagout & dissipation | Δ Electrical source: _____
┆ Equip./mechanical source: _____
┆ Exposed moving parts source: _____
┆ Other: _____ |
| <input type="checkbox"/> Blocking or cribbing | Unsupported components capable of crushing entrant (gravity) |
| <input type="checkbox"/> 70E permit & precautions | Live electrical work required |
| <input type="checkbox"/> Line blank or double-block & bleed | Piping contains Δ Hazardous substance Δ Hi temp. Δ Hi pressure |
| <input type="checkbox"/> Clean-up/decontamination
_____ | Flammable, biological, radiation or hazardous chemical substance
(<i>liquid, solid, gas/vapor/spray, dust, fiber, etc.</i>) |
| <input type="checkbox"/> Cord ground & GFCI protection | Electricity through cords, generators &/or power tools |
| <input type="checkbox"/> Drying or clean-up | Moisture/spill makes area conductive or presents slip hazard |
| <input type="checkbox"/> Lighting | Inadequate illumination to spot hazards or work safely |
| <input type="checkbox"/> Cover/guardrail/PFA system | Δ Fall hazard of 6 feet or more
┆ Hole, opening or configuration that could trap or asphyxiate entrant |
| <input type="checkbox"/> Toeboards, covers or guardrails | Falling object hazard poses danger to entrant |
| <input type="checkbox"/> Communication equipment | Verbal/visual communication insufficient to assure entrant wellbeing |
| <input type="checkbox"/> Cool down/warm-up period | Thermal hazards |
| <input type="checkbox"/> Rest periods/hydration/rotation | Temperature/humidity extremes, work demand on body |
| <input type="checkbox"/> Hot work permit/weld curtain | Hot work operations |
| <input type="checkbox"/> _____ | Engulfment hazard (flowable material that can fill or compress lungs) |
| <input type="checkbox"/> Special PPE | Biological, chemical/material, work task, temperature extremes |
| <input type="checkbox"/> _____ | Other (list): _____ |

Confined Space Entry

EQUIPMENT NEEDS

- Air monitoring equipment
- Ventilation equipment
- Tripod with retrieval winch, lifeline & hardware
- 1st aid supplies & rescue/emergency equipment
- Lockout/tagout hardware
- Fire extinguishers
- Explosion-proof tools, ventilation &/or lighting
- Communication equipment (entrant – attendant)
- Warning signs, barricades, guardrails, covers
- Other: _____

PPE NEEDS

- Full body harness
- Eye/face protection
- Head protection
- Hearing protection
- Protective clothing
- Hand/skin protection
- Foot protection
- Respiratory protection
- Other _____

RESCUE PLANNING

Emergency phone #'s (if not 911): EMS: _____ Fire: _____ Police: _____

Method entrant & attendant will use to communicate: _____

Rescue procedure (check one): Δ Non-entry rescue Δ Entry rescue

- Non-entry rescues: As soon as need for rescue becomes evident, call 911 & initiate non-entry retrieval. Under no circumstances shall anyone enter space to perform or assist with rescue. Provide 1st aid/CPR as necessary until rescue responders arrive.
- Entry rescues: Identify rescue team on stand-by (on site) _____
 - ┆ Rescue team given advanced notice of this work & their responsibility.
 - ┆ Rescue team trained & given opportunity to practice prior to work entry.

ATMOSPHERIC TESTING

Person conducting initial testing: Print name: _____ Sign: _____

Acceptable Entry	TIME	O ₂	LEL	CO	H ₂ S	
	hh:mm	19.5–23.5	<10	<50	<20	
Initial Test (before ventilation)						
Post Ventilation Test						

Identify air monitor used:

- Make: _____
- Model: _____
- Serial #: _____
- Date last calibration: _____

PERMIT AUTHORIZATION

This permit and the work authorized by it have been reviewed. Safety equipment & procedures are in place as necessary to control identified & predictable confined space hazards. Work instructions and safety procedures are understood by all involved in the entry process. _____

(Signature of Entry Supervisor)

Time work completed: _____ Initials (Entry Supervisor): _____

This permit is to be kept at the worksite. Return it to the office following job completion.