

# TIP sheet

## Confined spaces

T014 – MAY 2008



### Definition

A confined space means an enclosed or partially enclosed space that:

- Is not intended or designed primarily as a place of work.
- Is at atmospheric pressure while persons are in it.
- May have an atmosphere with potentially harmful contaminants, an unsafe level of oxygen, or stored substances that may cause engulfment.
- May (but need not) have restricted means of entry and exit.

Other hazards associated with CS include extremes of temperatures, falling from height, electricity, poor access/egress, visibility and 'hot work' within the space.

### Confined spaces examples (CS)

- Pipes, sewers, shafts, ducts, deep, narrow drains and similar structures.
- Spaces entered through a small hatchway or access point, such as water tanks on trucks, oil tanks, boilers, pressure vessels, bridges, silos and other 'void' spaces.

### Minimum requirements

Managers and supervisors must implement measures to control and/or minimise the health and safety hazards and risks associated with CS. All RTA worksites shall ensure that before any person enters a CS:

- The CS is identified, risk assessed, signposted and documented on the site plan.
- Safe Work Method Statements (SWMS) are available for all tasks associated with the CS.
- A CS Entry Permit and Emergency Response System is in place.
- All required safety and rescue devices are fit for purpose and, where possible, in place, or at least easily accessible close to the entry point and a trained standby person is in position whenever anyone is in the CS.
- All employees and contractors who may work in or near the CS are appropriately trained.
- A physical barrier is positioned around the CS prior to anyone entering and during occupancy where possible.

### Identification of CS

To determine whether a work area is a CS a VETAB accredited person must complete Appendix A of RTA Policy 2.6 Confined Spaces 'Identification and Assessment of Work Area - Confined Spaces'

Note – some culverts clearly fall into the definition of a CS. An assessment must be undertaken on each culvert prior to entry to determine classification.

### Risk assessment

Risk Assessments of all CS shall be undertaken and comply with the RTA Risk Management Procedure and Confined Spaces Policy.

A Risk Assessment and SWMS must be completed by a VETAB accredited person for any activity involving interaction with CS and must be specific to the site and hazard(s) present.

### Risk control

The need to enter a CS (eg. use remote controlled equipment) should be eliminated if possible. If this is not possible, then risk reduction by working down the following hierarchy of control shall be undertaken:

1. Substitute eg: in a CS, use a non-flammable over a flammable solvent and/or detergent instead of a chlorinated solvent for cleaning the space where required, use of intrinsically safe equipment should be considered and is compulsory if flammable vapours/gases are detected and/or are present.
2. Use engineering controls such as portable local exhaust ventilation to purge the atmosphere within the CS.
3. Isolate and deactivate energy and/or sources of gases and/or ignition etc, that may put persons at risk in the CS.
4. Where prescribed by the risk assessment, measure and monitor for the presence of gases in the CS before and during the work activity, (At least one person inside the CS must have a gas monitor operating in the immediate vicinity of the work).

5. Restrict CS access to trained and competent persons, Use SWMS and a Confined Space Entry Access Permit System.
6. Use PPE as identified in the Risk Assessment.

Using more than one of these controls in combination is usually necessary.

### Confined spaces training

Only VETAB accredited persons are permitted to enter a CS, act as a standby person, complete entry permits and risk assessments or conduct gas monitoring. Site specific training shall include details of:

- The range of hazards within the CS.
- Assessed risks and controls adopted.
- Use and maintenance of gas monitoring equipment.
- Lockout procedures utilised.
- Communication protocol and devices used.
- Use/maintenance of selected PPE, respiratory protection, safety and rescue equipment.
- Fire/emergency response system and rescue and retrieval procedures in place.

Authorised to enter	WHO	WHAT				
		VETAB accredited	Overview of design issues (1 day)	Manager awareness (2-4 Hr)	Refresher training (Years)	Site induction (site dependent)
NO	Managers		✓	2	✓	
	Designers		✓	2	✓	
	Visitor				✓	
YES	Approved persons	✓		1	✓	
	Entry person	✓		1	✓	
	Standby person	✓		1	✓	✓

### Atmospheric testing

Many potential toxic gases in a CS cannot be seen or smelt. Atmospheric testing of a CS can only be done by a VETAB accredited person.

Where prescribed by the Risk Assessment, CS atmospheres shall be tested and continuously monitored from inside and if required also from outside the CS for:

- Oxygen content.
- Airborne concentration of flammable and potentially harmful gases and contaminants.

Consult RTA OHS policy - Confined Spaces which includes identification and assessment of work area.

If at any time, the gas monitor alarm sounds all personnel must immediately exit the CS.

### Confined space entry permit

The confined spaces entry permit shall be completed and authorised before entry for any work is undertaken within the CS.

### Standby person

The Standby Person shall:

- Maintain visual and audible contact with those working in the CS.
- Maintain clear access/egress to CS.
- Initiate emergency procedures where necessary.
- Be responsible for administering the CS Entry Permit.
- Not enter the CS unless he/she is relieved by another standby person.
- Not participate in any other work duty or task while the CS is occupied.

### Hot work

When doing hot works in a CS:

- Gas bottles shall not taken into a CS.
- Gas torches and welders shall be removed from a CS when not in use.
- Flashback arrestors shall be fitted to all gas bottles.

### Emergency response, rescue and retrieval

A CS Rescue and Retrieval Plan shall be prepared in consultation with the workers at the workplace and emergency service agencies where appropriate and regular emergency response drills shall be conducted.

The Plan shall prescribe the most expedient means for:

- Evacuation of all personnel from the CS.
- Provision of effective first aid.

- Ensuring that Emergency Services are notified where required.

Emergency safety and rescue devices shall be readily accessible and persons working in CS must be competent in the use of this equipment.

### Records

The following records shall be maintained:

- CS Entry Permits, Rescue and Retrieval Plans for a period of one month after completion of work.
- Risk Assessment reports in relation to work in confined spaces for five years after the date of preparation.
- Records of training in relation to work in confined spaces for the terms of employment of persons to whom the training has been provided.

### References

- NSW OHS Act 2000 and OHS Regulation 2001 Division 9
- AS/NZS 2865: Safe Working in a Confined space
- NOHSC Core Training Elements for the National Standard for Safe Working in a Confined Space
- RTA OHS policy - Risk Assessment 2.0
- RTA OHS policy - Confined Spaces 2.6