SAFE WORKING GUIDELINES
CONFINED SPACE/S

1. Introduction

The objective of this procedure is to prevent the occurrence of injury and reduce the severity of injuries resulting from tasks being carried out in confined spaces being performed by employees and subcontractors of Proline Building Commercial Pty Ltd who are suitably qualified and ticketed to do so.

Confined spaces present special risks because the hazards present may not be readily apparent. Several damaging energies may be involved: Chemical Exposure and Oxygen Deprivation, Object- fluid under pressure, Machine- moving part, Electrical, Human- work posture and Gravitational- fall, particularly at entry points, all need to be managed and safeguarded.

This safe working guide sets out the requirements and procedures to ensure the health and safety of persons required to enter or work in a confined space.

2. Purpose

The purpose of this document is to provide the requirements and procedures to ensure the health and safety of persons required to enter or work in a confined space.

3. Definitions

A **"confined space"**, according to the Work Health Safety Regulation 2017, means an enclosed or partially enclosed space that:

(a) is not designed or intended primarily to be occupied by a person, and
(b) is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space, and
(c) is or is likely to be a risk to health and safety from:
(i) an atmosphere that does not have a safe oxygen level, or that may cause injury from fire or explosion, or
(iii) harmful concentrations of any airborne contaminants, or
(iv) engulfment,
but does not include a mine shaft or the workings of a mine.

What is a confined Space?

(Obtained from the Confined Space Code of Practice 2014)

	Confined space criteria						Confined space?
Description of the space and activity	A	B	C	D			If the answer to A, B, C and at least one of D is yes, then the space is a confined space.
	Is the space enclosed or partially enclosed	Is the space not designed or intended to be occupied by a person	Is the space designed or intended to be, at normal atmosp-heric pressure while any person is in the space	Does the space present a risk from:			
				Harmful airborne or flamm-able contam-inants	An unsafe oxygen level	Engulf-ment	
Sewer with access via a vertical ladder	✓	✓	✓	✓	✓	✓	Yes
Dislodging grain from a silo with sole access through a manhole at the top	✓	✓	✓	✓	×	✓	Yes
Cleaning spilled cadmium pigment powder in a shipping container	✓	✓	✓	✓	×	×	Yes
Inspecting a fuel tank in the wing of an aircraft	✓	✓	✓	✓	×	×	Yes
Dislodging a sludge blockage in a drain pit	✓	✓	✓	✓	✓	✓	Yes
Internal inspection of a new, clean tank prior to commissioning	✓	✓	✓	×	×	×	No
Internal inspection of an empty cement silo through a door at ground level	✓	×	✓	×	×	×	No
Stocktake using an LPG forklift in a fruit cool store	✓	×	✓	✓	×	×	No
Installing insulation in a roof cavity	✓	✓	✓	×	×	×	No

4. Roles & Responsibilities

Project Managers/ Supervisors and Site Supervisor are responsible for the following:

- Identification, assessment, control and evaluation of confined space hazards;
- Ensuring only suitably qualified ticketed person/s carry out works in confined spaces;
- Ensure risk assessment and SWMS has been developed prior to issuing a confined space permit Doc No: OHS107.

Employees / subcontractors are responsible for the following:

- Ensure they do not carry out works in confined spaces, unless suitably qualified ticketed to do so and have obtained a confined space permit doc no: OHS107;
- Co-operate with Project Managers/Supervisors and Site Supervisor in implementing the confined spaces management controls;

5. Procedure

5.1 Planning – Design Out

During the design stage, consideration for designing out safety issues where possible should be considered and documented on Doc No: OHS054 Design Risk Assessment if applicable. The following should be considered during this review:

• Eliminate Confined spaces at the design stage wherever possible.
• minimise the need to enter a confined space
• minimise the risks to persons working in a confined space
• Access points to be of adequate size to permit rescue of persons

5.2 Risk Assessment

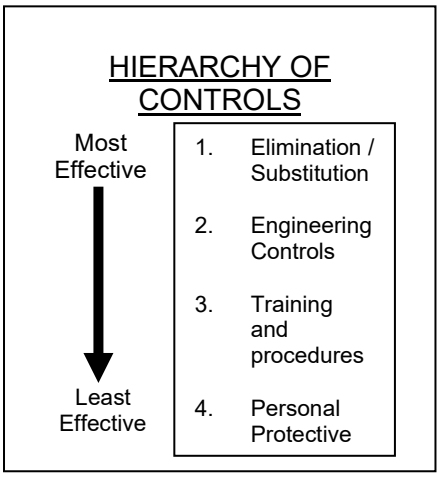
Failure to design out a confined space hazard, then a risk assessment shall be undertaken by a competent person before work associated with the confined space is carried out. The assessment shall be in writing and take into account at least the following:

- The nature and inherent hazards of the confined space
- Occupation or job/task of the person exposed
- The work required to be done, including the need to enter the confined space
- Duration and frequency of the person/s need to enter the confined space
- The range of methods by which the work can be done

5.3 Risk Control

It is the responsibility of all employees and subcontractors involved in the confined space hazard management process to ensure that they co-operate with control measures that are put in place by Proline. Risk Control is the means for minimizing or eliminates the identified risk and is carried out using the following heiarchary of control:

- *Eliminate the risk by ceasing the hazardous component or activity*
- *Substitute a less harmful alternative hazard substance or process*
- *Isolate the hazard at source using engineering means*
- *Introduce administrative controls to minimize exposure*
- *Use of Personal Protective Equipment*



5.4 Hazards Associated with Confined Space/s

5.4.1 Hazardous substances

Hazardous substances, including harmful atmospheric contaminants, may arise from the following sources:

- The substance stored or its by-products
- The operation performed in the confined
- The entry and accumulation of gases and liquids from adjacent plant or processes.
- The accumulation of exhaust gases from plant operating in or close to the confined space
- The entry of natural contaminants and gases into the confined space from the surrounding
- land, soil or strata.
- Atmospheric contaminants when sludge, slurry or other deposits are disturbed or when
- scale is removed.
- Products of combustion.

5.4.2 Flammable contaminant

Two things make an atmosphere flammable:

- the oxygen in air; and
- flammable gas, vapour or dust in the proper mixture.

5.4.3 Unsafe oxygen level

A deficiency or excess of oxygen; when oxygen exceeds 21% (what about when it's less than 19%), flammable materials will burn more violently if ignited.

5.4.4 Engulfment

Plunge into and be immersed in material; loose materials can crust or bridge over when a container of stored material is emptied from below leaving the top layer in place.

5.4.5 Mechanical hazard

Exposure to the mechanical hazards associated with plant may result in entanglement, crushing, cutting, piercing or shearing of parts of a person's body. Examples of sources of mechanical hazards include plant such as augers, agitators, blenders, mixers, stirrers, and conveyors.

5.4.6 Ignition hazards

Ignition hazards are usually associated with plant or processes either in the confined space or in the vicinity of the confined space.

5.4.7 Electrical hazards

From lines, cables, transformers, capacitors, relays, exposed terminals; and wet surfaces where electrical cables, leads and power tools are used.

5.4.8 Presence of, or uncontrolled introduction of, substances

Such as steam, water or other liquids, gases or solids may result in drowning, being overcome by fumes, engulfment, or other harm depending on the nature of the substance.

5.4.9 Noise

Excessive noise generated from the use of plant or equipment and the work method being utilized.

5.4.10 Manual Handling

Damaging human energy may exist in relation to the work to be carried out in the confined space or be exacerbated by physical constraints of the confined space. Additional hazards may arise from the use of PPE which restricts movement, grip and mobility.

5.4.11 Radiation

Sources of radiation include: lasers, welding flash, radio frequency (RF) and microwave energy, radioactive sources, isotopes and X-rays.

5.4.12 Temperature

Working in extreme temperatures may allow stress to develop. Heat stroke, heat exhaustion, and heat cramps are three types of heat stress disorders.

5.4.13 Environmental

- heat or cold stress arising from the work, process or conditions;
- wet or damp environments; and
- slips, trips and falls, arising from slippery surfaces.

5.4.14 Biological

There are many infectious diseases, which have the potential to be contracted from microbes during the course of work in confined spaces.

- Contact with fungi
- Exposure to mites viruses and bacteria- leptospirosis and E.coli is of particular concern for
- work in sewers.
- Insects, snakes and vermin

5.4.15 Traffic

Where confined space entry or exit points are located on walkways or roads the potential for persons to fall into the space may also exist.

5.4.16 Risks

Some of the risks associated with the presence of chemical or physical hazards in confined spaces include:

- loss of consciousness, injury or death due to the immediate effects of contaminants;
- fire or explosion from the ignition of flammable contaminants;
- asphyxiation resulting from oxygen deficiency;
- enhanced combustibility and spontaneous combustion resulting from an excess of oxygen; and
- asphyxiation resulting from engulfment by stored material including grain, sand, flour or
- fertiliser.

6.0 Entry & Exit Points of a Confined Space

Entry and exit points must be of adequate size to permit rescue of all persons who enter the confined space, and be safeguarded to prevent injury to others. Warning signs must be displayed

7.0 Entry Requirements of a Confined Space

Before any person can enter a Confined Space, a Confined Space Entry Permit Doc No: OHS107 must be completed all signatures obtained and the permit authorised by the Site Supervisor or Project Manager. There may also be a requirement to comply with the Client specifications.

A Confined Space Entry Permit is valid for a maximum of twelve hours and only for one shift.

Entry to a confined space must take place within one hour of the permit being approved, otherwise, all entry tests must be repeated and the permit re-validate issue of a Confined Space Entry Permit Doc No: OHS107.

The Site Supervisor is responsible for ensuring the following conditions are met prior to any work in a confined space:

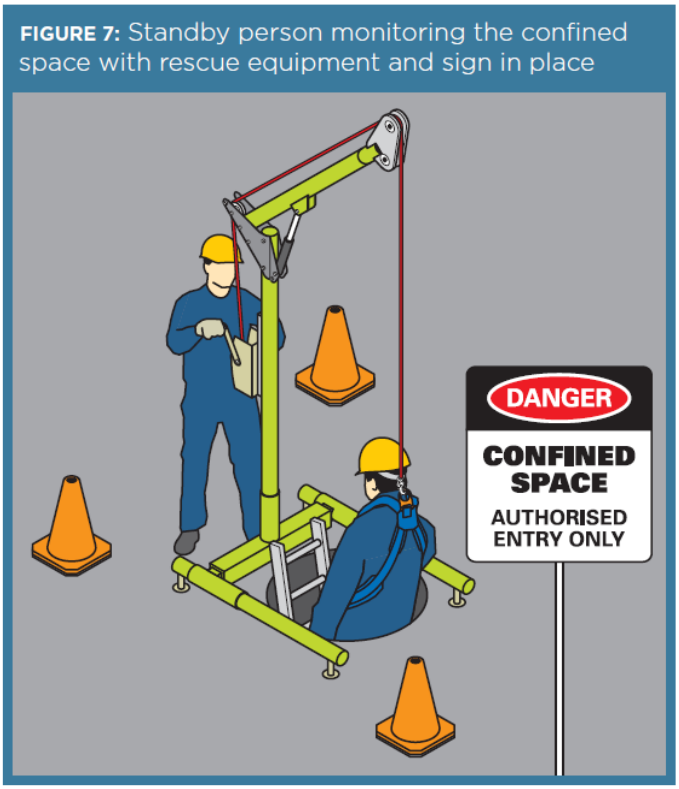
- The supervisor, along the work crew involved, conducts a Confined Space Safe Work Method Statement, which has been approved by the Systems Manager.
- Review the SWMS with the crew immediately prior to commencing the task, and with those who may subsequently join the crew at a later time.
- Sample the confined space atmosphere against the following requirements and record the
- readings on the Confined Space Entry Permit Doc No: OHS107
- There is a safe oxygen level (between 19.5 and 23.5%).
- Any atmospheric contaminants in the confined space have been reduced to below the relevant exposure standards.
- The confined space is free from extremes of temperature.
- The concentration of any flammable contaminant in the atmosphere of the confined space is
- below 5% of its Lower Explosive Limit (LEL). (Note: Entry above 10% is prohibited.)
- If it is not possible to meet the above standards for oxygen and contaminants, entry to the space is only permitted with the written approval of the Site Supervisor in consultation with all involved to assess all risks, and agree personal protective equipment including air respiratory protective equipment and/or continuous gas monitoring.
- In the permit, include any precautions or instructions necessary for the safe entry and
- performance of the work.
- The authorised person (i.e. the Site Supervisor or, in their absence, the Project Manager) issues the permit to the person nominated as the ‘Permit Holder'. Before issuing the permit, the authorised person must be satisfied that all safety requirements have been met.
- The Permit Holder / standby person accepts the permit and ensures the conditions stipulated are complied with at all time. This person must be confined space certified and have no other duties while performing that role. The responsibilities of the Permit Holder / standby person are to:
    - Monitor the atmosphere of the confined space
    - Ensure persons entering the confined space read the permit conditions and sign in and out
    - Notify the supervisor if the permit is suspended or the work is complete and the permit is closed.

- Ensure that Emergency Procedures are in place for any work in a confined space and that all persons involved in the activity are aware of them. Never allow any person to enter a confined space without a documented rescue procedure.
- Ensure that any person required to work or assist with tasks involving working in a confined space:
    - has attended appropriate training in accordance with AS2865 Confined Spaces, or has documented evidence of competency as a result of training received elsewhere
    - is given adequate training in the hazards associated with working in that particular confined space is wearing the specific safety equipment required for working in a confined space, and is trained in its use.

- Ensure that every person signs the Entry/ Exit Log of the Permit before entering the confined space.
- During all confined space work, erect appropriate signs and barriers to warn others that confined space work is in progress and to prevent entry of persons not involved in the work.
- On completion of the work, or at the end of the shift:
    - Sign off the permit to show that the work has been completed/ceased and that all persons have left the confined space
    - Secure the confined space against entry and place signage at the entrance
    - Return the permit to the Site Supervisor or Project Manager.

Before a Confined Space is finally closed up after entry, the standby person is to personally check that no person remains inside and that all equipment and materials relating to the work done have been removed along with any signage and barricading.

FIGURE 7: Standby person monitoring the confined space with rescue equipment and sign in place



8.0 Training

All persons with work activities related to a confined space shall be trained and assessed as

competent to perform those activities. The training shall include:

- The hazards of confined spaces.
- Assessment procedures.
- Control measures.
- Emergency procedures.
- The selection, use and maintenance of safety equipment.
- Legislative requirements.

Persons shall be trained and assessed as competent to carry out these activities:
- perform work in or on a confined space
- perform confined space assessments
- issue written authorities
- design and lay out the workplace
- manage and/or control of the work in confined spaces
- maintain equipment used for the safety of persons in the confined space
- provide, fit, wear and maintain personal protective equipment
- stand-by duty
- emergency response and first aid procedures.

9.0 Emergency Planning

Emergency Procedures must be in place for any work in a confined space and that all persons involved in the activity must be aware of them. The emergency procedure should include what medical help could be required and from where it will be obtained. The spontaneous reaction to immediately enter and attempt a rescue from a confined space may lead to the deaths or serious injury of those attempting the rescue. Knowledge and rehearsal of emergency response procedures will help to prevent such spontaneous and inappropriate action.

9.1 Emergency response equipment

Emergency response equipment may include additional sets of breathing apparatus, lifelines and lifting equipment. The appropriate equipment will vary depending on the type of confined space, the risks involved and how persons in the space will be rescued.

Escape type or self rescue respiratory protective equipment for use in case of emergency may have limitations placed on it by the manufacture. This type of equipment is suitable only for certain types of emergency and is not a substitute for supplied-air respiratory protective equipment. Refer to AS/NZS 1715 Selection, use and maintenance of respiratory protective devices.

10. Review & Evaluation

In order to ensure this procedure remains effective, it will be reviewed by Senior Management on an annual basis or in the event of an injury or near miss resulting from any noisy activity, changes in legislation or if raised by an employees concern.

11. References / Legislation

- Work Health & Safety Act 2011
- Work Health & Safety Regulation 2017
- AS 2865 Confined Spaces

- AS/NZS 1715 Selection, use and maintenance of respiratory protective devices
- Confined Spaces Code of Practice 2014

12. Version Control

Date	Version	Owner	Comments
12.03.09	1	Michelle Noy	For Issue
14.02.11	2	Michelle Murphy	Inclusion of associated hazards, emergency planning
11.11.11	3	Michelle Murphy	Following External 3rd Party Audit
18.04.12	4	Michelle Murphy	Changes in legislation / code of practices
05.06.15	5	Michelle Murphy	Following Management Review
01.09.17	6	Michelle Murphy	General Review
01.06.18	7	Michelle Murphy	Changes in legislation
01.12.23	8	Michelle Murphy	General Review