Confined Spaces Procedure

1 July 2026

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1 Introduction

This procedure applies to any PBPL operated and/or maintained work site (including PBPL vessels) where entry to, and/or work in, a confined space is required. The procedure applies to both PBPL employees and PBPL controlled contractors. The Procedure forms part of the PBPL Permit to Work (PTW) system and details the specific requirements for confined space entry and work.

2 Scope

This procedure applies to all PBPL employees and work activities across the organisation.

3 Definitions

Term	Definition
Confined Space	An enclosed or partially enclosed space that is not designed for continuous occupancy and has restricted entry/exit, creating potential hazards such as lack of oxygen, contaminants, or flammable atmospheres.
PBPL	Refers to the organization responsible for the procedure and controlled work sites, including vessels.
Permit to Work (PTW)	A formal system that authorizes specific work activities, including confined space entry, ensuring all safety requirements are met.
Confined Space Control Form	A mandatory document used to record risk assessments, entry authorizations, atmospheric test results, communication plans, and withdrawal of entry authorization.
Entry Person	A trained and competent individual authorized to enter and work inside a confined space.
Standby Person	A trained individual positioned outside the confined space to monitor and communicate with Entry Persons and initiate emergency response if needed.
Competent Atmospheric Testing Person	A qualified individual responsible for conducting and recording atmospheric testing and monitoring inside confined spaces.
LEL (Lower Explosive Limit)	The lowest concentration of a gas or vapor in air is capable of producing a flash of fire in the presence of an ignition source.
AS/NZS 2865	Australian/New Zealand Standard for safe working in confined spaces, referenced for training and competency requirements.
Positive Pressure Supplied Air Breathing Apparatus	Respiratory equipment that provides air under positive pressure to protect workers in environments with insufficient oxygen or hazardous contaminants.
Purging Agent	A substance used to clear contaminants from a confined space before entry; must not be pure oxygen or mixtures with oxygen content above 21%.
Confined Space	A record of all identified confined spaces under PBPL control, including

Register	updates when spaces are added, removed, or redesigned.

4 Training and Competency

Training is provided by accredited providers. As a minimum, training covers the following:

- the hazards of confined spaces
- risk assessment procedures
- control measures
- emergency procedures
- the selection, use and maintenance of safety equipment.

Training records are held in the HR Information System.

Only trained and competent people may enter, test or stand-by in confined spaces. Competency must be verified prior to entry.

The On-site Supervisor shall confirm that the Competent atmospheric testing person, Entry Persons, and Stand-by Person are trained and current before authorising entry in Confined Space Control Form – Section 4 and Section 5.

Training dates and certification expiry shall be recorded or attached to the Control Form.

5 Confined Space Design Issues

Where possible during the planning of new facilities, procurement of new plant or modification of existing PBPL assets, spaces are to be designed in a way that ensures they are not confined spaces or do not require entry for maintenance, cleaning or other purposes.

Where confined spaces are unavoidable, the following need to be part of any design, installation or plant modification:

- adequate and convenient means of entry and exit for people, inclusive of any additional space required for people wearing specific PPE and clothing
- outlets and external facilities for cleaning to eliminate or minimise the requirement to enter the space
- ventilation facilities to avoid build-up of contaminants or combustible atmospheres
- a housing or facility that enables a confined space access hatch or door to be locked in the open position
- provisions for people to access and work in comfortable positions or postures
- fixed ladders, platforms and walkways complying with AS 1657
- illumination complying with AS 1680.1 or AS/NZS 2381 (explosive atmospheres) which will be sufficient to enable safe entry and conduct of work
- signs complying with AS 1319 at each entry to the confined space that identify the space and provide warning against entry by anyone other than those authorised to enter

- outlets and effective methods for isolating energy sources from outside of the confined space
- drain valves or other means of isolation in pipe work from outside of the confined space to reduce the risk of possible pressurisation and confined space atmospheric contamination
- All identified confined spaces are to be clearly labelled with signs marked as shown:

A Confined Space Register is to be compiled for all PBPL controlled confined spaces, including vessels. The register should be readily accessible to all people involved with confined space entry, including contractors. When a new confined space is identified, a space is no longer under PBPL control, or a space becomes eliminated through re-design etc., the register is to be updated by the appropriate person.

6 Entry and Working in Confined Spaces

Only those who have been trained in accordance with this Procedure are to enter or work within confined spaces, supervise entry or work tasks, or carry out stand-by person roles.

Entry into a confined space must only be undertaken following the completion of a written risk assessment, Confined Space Control Form, and Permit to Work Form.

If a confined space work environment changes or there is a change of work scope that was not originally considered (such as a need to do hot work that was not considered in the original planning process), the entry process or work is not to be initiated until a reassessment of the confined space is done (re-documented or amended) and adequate controls are implemented.

Note: If an unexpected atmospheric change occurs, work is to cease immediately, and workers are to leave the confined space area until conditions can be controlled.

6.1 Atmospheric Testing / Monitoring

Where required, confined spaces are to be cleared of contaminants by use of a suitable purging agent prior to atmospheric entry or testing. The purging agent or any gas used for ventilation purposes must never be pure oxygen or gas mixtures with an oxygen content greater than 21%.

Atmospheric testing / monitoring must be undertaken in accordance with the following table of requirements:

	Mandatory Minimum Requirements	Additional requirements relating to work activities
Entry / Category of Space	Any entry to any space	Work activities within any space
Requirements	▪ Pre-entry testing ▪ Initial testing at commencement of each following work shift	▪ Above mandatory minimum requirements ▪ Additional, as deemed appropriate by the *Supervisor* (and documented in the *Work Activity Risk Assessment and Control Form*): ➢ Continuous monitoring of the space ➢ Continuous monitoring of *Entry Persons'* breathing zones
Responsibility	***Competent atmospheric testing person:*** ▪ **undertake testing** ▪ **record the results on *Confined Space Control Form***	***Competent atmospheric testing person*:** ▪ **set up monitoring device in the space if required** ▪ **communicate the need for an *Entry Person* to wear the device if required** ▪ **communicate specific information regarding the monitoring or use of the device as required** ***Entry Persons*:** ▪ **wear continuous monitoring devices if required**

Recording of atmospheric testing results is to be done within the Confined Space Control Form - Section 3: Atmospheric Test Results.

Where the written risk assessment, Confined Space Control Form and evaluation of the atmosphere identify the potential for later release of contaminants or a variation in oxygen level, the atmosphere within the space must be monitored during that period.

As part of atmospheric testing / monitoring the following constraints (also included within the Confined Space Control Form – Section 3), are to be always observed:

Atmospheric Issue	Safe Level	Caution (Entry during Emergency Response / With Additional Controls Only)
Oxygen	**> 19.5 % and up to 23.5%**	**< 19.5% need positive pressure supplied air breathing apparatus.**
<u>Contaminants</u>:		Generally, positive pressure supplied air breathing apparatus may be worn at levels approaching and slightly over the exposure standard as determined as part of risk assessment and control measure implementation.
CO ➔	**< 30 ppm**	
H_2S ➔	**< 10 ppm**	
CO_2 ➔	**< 5000 ppm**	
NH_3 ➔	**< 25 ppm**	
Other ➔	**As per specific exposure standards**	
LEL ➔	**< 5%**	> 5% and up to 10 % Entry permitted in emergency response. However, if during work the level rises to above 5% and up to 10%, people are to evacuate, unless a suitably calibrated combustible substance detector is used at all times while people are in the space.
For other contaminants not listed, specific monitoring devices and pre-work planning will be required to ensure safe entry / work.		

Due to the size and complexity of some confined spaces it is not always possible to ensure that remote regions of confined spaces do not contain unsafe levels of flammable contaminants. In such cases, once the atmosphere adjacent to the entry point has been proven safe for entry, testing of more remote regions within the confined space is to be undertaken. For these monitoring tasks and for work in such large and complex spaces, continuous monitoring via the use of a combustible substance detector is to be undertaken at all times while anyone is present in the space.

All atmospheric testing / monitoring equipment, batteries, battery levels, etc. are to be inspected prior to use and verified as being appropriately calibrated and fit for use. This may involve a verification of the last calibration date, battery check, zero in of the device, etc. in accordance with manufacturer requirements.

6.2 Access Control

Prior to authorising the entry of people into a confined space, the on-site supervisor must record the entry authorisation via the acknowledgement of the written risk assessment & Confined Space Control Form – Section 4: Entry Authorisation.

During entry or work in a confined space, measures are to be implemented to provide warning to others of the confined space activity and to prevent entry of persons not involved in the work. This may be achieved by way of barricading, signage, or other specific exclusion methods as determined within the risk assessment and Confined Space Control Form planning process.

Anyone entering a confined space must:

- sign in on the Confined Space Control Form – Section 5: People Entry and Exit, which is to be located at the entrance to the confined space
- ensure all controls as detailed on the Confined Space Control Form have been completed/complied with
- sign off on the Confined Space Control Form – Section 5: People Entry and Exit, after leaving the confined space.

After concluding any entry or work in a confined space, the space, its entry, and its access are to be restored to a safe manner. This includes:

- cleaning of work areas and surfaces around the space, as appropriate
- a systematic search of all sections of the confined space to confirm that Entry Persons have exited and that plant, equipment, tools have been removed
- the on-site supervisor seeking assistance from one or more Entry Persons to assist in the coordinated closure of the space
- a check that all people involved in the work have signed-off on the Confined Space Control Form – Section 5: People Entry and Exit, for the last time
- the systematic closure of all access and inspection doors, entries, locks, etc as appropriate
- removal of barricades, signage, etc, as appropriate
- completion and return of all forms and documentation related to the activity to the PBPL Authorised Person

The above confined space close-up process, involving the on-site supervisor, must be recorded via the acknowledgement of the Confined Space Control Form – Section 6: Withdrawal of Entry Authorisation.

Note: The Entry Authorisation and Withdrawal of Entry Authorisation components of the Confined Space Control Form – Sections 4 and 6, must only be completed prior to the first initial entry and following final close-up of the space, respectively.

6.3 Communication and Stand-by

As part of any confined space entry, a communication means must be established in addition to pre-entry communication between the on-site supervisor and confined space Entry Persons. This communication means may include:

- ensuring a designated person stands-by the confined space while Entry Persons are inside the space
- ensuring that multiple Entry Persons enter the space, remain in close proximity and hence monitor each other's safety
- ensuring that a specific communication device is used and functioning if an Entry Person accesses the space alone.

Where a specific communication method is to be established during access or work within a confined space, this is to be identified within the Confined Space Control Form – Section 2: Communication & Stand-by Controls.

6.4 Emergency Response / Preparedness

As part of planning activities involving confined space entry, on-site supervisors are to consider potential rescue / retrieval scenarios. As part of these considerations, and reflective of the work activities and hazards involved, details regarding potential rescue / retrieval needs are to be documented within the Confined Space Control Form – Section 2: Rescue / Retrieval Considerations. Specific consideration should be given to the entry or work within any confined space that has a restricted entry/exit or presents difficult retrieval characteristics.

Where deemed appropriate for the confined space entry or work, response / retrieval / personal protective equipment (i.e. self-contained breathing apparatus, rescue harness, etc) is to be available, inspected and fit for use. It must also be ensured that competent people are available to use these items as appropriate. It is important to also rehearse emergency response procedures.

In cases of emergency response, those persons involved in the response must be made aware of the conditions in the confined space prior to any entry. In the case of a serious emergency situation where external emergency services have been sought to assist in a confined space emergency or evacuation situation, relevant PBPL emergency response protocols are to be implemented as per the Critical Incident Plan.

7 Supplier Engagement Management

As part of establishing contractual arrangements for suppliers/contractors to enter and perform work within PBPL controlled confined spaces, PBPL provides the following information to suppliers/contractors as appropriate for the scope of the work:

- this Confined Spaces Procedure
- access to a copy of the Confined Space Control Form
- access to a copy of the Permit to Work Form
- access to necessary drawings, plans / maps relating to confined space locations
- the identity of relevant PBPL Permit to Work Authorisers confined space entry.

As part of health and safety related documentation typically requested of suppliers/contractors procured to undertake work for PBPL, suppliers/contractors are to provide the following details with respect to confined space entry and work:

- content confirming that all people involved with confined space entry or work have been trained in accordance with *AS/NZS 2865* as evidenced by a current certificate of competency (including competencies with respect to equipment or rescue apparatus)
- content confirming that all equipment, atmospheric testing devices, retrieval items, etc. have been adequately maintained, tested and calibrated
- content confirming that all people involved with the confined space entry or work are aware of the intended scope of work, nature of the confined spaces and PBPL's confined space entry and work expectations
- content relating to specific confined space methods of work that will be undertaken.

8 Supplier/Contractor's Entry and Work Within Confined Spaces

Suppliers/contractors must obtain PBPL access authority prior to entering or working within a confined space via the PBPL Permit to Work system.

This authority is to be recorded within the PBPL Permit to Work Form once the supplier/contractor has completed relevant pre-entry planning. The identity of the PBPL person responsible for authorising such access is to be communicated to the contractor prior to entry preparations or work commencing.

Following confined space entry or work, all completed documentation, including the Permit to Work Form, Confined Space Control Form, and written risk assessment documentation, is to be returned to a PBPL confined space authorised person.

9 Non-Compliance

Breaches of this procedure may result in disciplinary action being initiated in accordance with PBPL's Code of Conduct.