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TABLES

1. OBJECTIVE

This objective of this procedure is to outline the requirements and method/s for the identification, classification and control of work in confined spaces.

2. SCOPE

This procedure applies to:

- a person conducting a business or undertaking (PCBU), and all workers working for a PCBU, for or on behalf of PPA on a PPA site or PPA controlled works;
- a visitor or director who is on a PPA site or PPA controlled works;
- a vendor's worker my work under their own company's confined space entry procedures if formally agreed;
- PPA tenants are required to meet the intent of this procedure, by putting systems in place to manage risks associated with confined spaces.

3. DEFINITIONS

Table 1: Definitions

TERM	DEFINITION
Atmospheric monitoring	The continuous measurement of oxygen concentration or airborne contaminants over an uninterrupted period of time.
Atmospheric testing	The measurement of oxygen concentration or airborne contaminants that is not continuous.
Atmospheric Testing Officer	A person trained to carry out atmospheric monitoring and/or testing for Confined Space Entry Permits.
Confined space	An enclosed or partially enclosed space that: • Is not designed or intended primarily to be occupied by a person; and • Is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space; and • Is or is likely to be a risk to health and safety from: ○ an atmosphere that does not have a safe oxygen level; or ○ contaminants, including airborne gases, vapours and dusts, that my cause injury from fire or explosion; or ○ harmful concentrations of any airborne contaminants; or ○ engulfment but does not include a space in which excavation work is carried out in an underground mine.
Contaminant	Any dust, fume, mist, vapor, biological matter, gas or other substance, in liquid or solid form, the presence of which may be harmful to persons.
Competent person	In relation to the doing of anything, means a person who has acquired, through training, qualification and experience, the knowledge and skills required to do that thing competently.
Entry (to a confined space)	The person's head or upper body is in the confined space or within the boundary of the confined space.

TERM	DEFINITION
Flammable range	The range of flammable airborne containment (percentage by volume) in air at which an explosion can occur upon ignition. Expressed as lower explosive limit (LEL) and upper explosive limit (UEL).
Lower explosive limit (LEL)	The concentration of a flammable contaminant in air below which the propagation of a flame does not occur on contact with an ignition source.
Permit Holder	A person involved in the task who accepts the permit from the permit authoriser and ensures all details on the permit are implemented.
Permit Authoriser	A person appointed by their PPA Business Unit Manager or delegate to authorise work and who has been appointed as a Work Permit Issuer.
Stand-by Person	A competent person assigned to remain on the outside of, and in close proximity to, the confined space and capable of being in continuous communication with and, if practical, observing those inside. In addition, where necessary, the competent person may operate and monitor equipment for the safety of personnel in the confined space and initiate emergency response.
Time-weighted average (TWA)	This is the average airborne concentration of a particular substance when calculated over a normal eight-hour day workday, for a five-day working week.
Upper explosive limit (UEL)	The concentration of a flammable contaminant in air above which the propagation of a flame does not occur on contact with an ignition source.
Visitor	A person who is signed in as a visitor at a PPA site and typically has not completed the PPA induction program and who is not engaged to participate in any work activities. They are escorted at all times by inducted personnel.
Work Permit Issuer	A person who has successfully completed the nationally recognised training, MSAPMPER300C Issue work permits and has been recorded and accepted by PPA.

4. RESPONSIBILITIES

Table 2: Responsibilities

ROLE	RESPONSIBILITIES
Managers, Superintendents and Supervisors	Personnel under their control are aware of, understand and comply with the requirements of this procedure.
Employees and contractors	Comply with the requirements of this procedure.
Visitors	Comply with all reasonable instructions given by your escort.

5. CONFINED SPACE EVALUATION AND REGISTER

Confined space evaluations and subsequent classification must be conducted by a team of knowledgeable and competent personnel who will consider and evaluate all possible items of plant and areas that could be classified as a confined space.

To determine if a candidate space fits the definition of a confined space, the Confined Space Identification Register must be used. The Health and Safety team are the custodians of the Confined Space Identification Register and are responsible for its creation and maintenance. As a minimum, the Confined Space Identification Register must include the following information for each confined space:

- an identification number;
- a description;
- the location;
- if there is risk of an oxygen concentration outside the safe oxygen range;
- if there is risk of a concentration of airborne contaminant that may cause impairment, loss of consciousness or asphyxiation;
- if there is risk of a concentration of flammable airborne contaminant that may cause injury from fire or explosion; and
- if there is risk of engulfment in a stored free-flowing solid or a rising level of liquid that may cause suffocation or drowning.

If a space is assessed to be a confined space, then the confined space is allocated with a unique Confined Space Identification Number (CS-ID) and recorded in the Confined Space Identification Register. Spaces that are assessed not to be a confined space should be recorded in the Confined Space Identification Register, so a record that an assessment has been completed is retained.

6. RISK ASSESSMENTS

There are two risk assessments required before any confined space entry proceeds:

- an Inherent Confined Space Risk Assessment; and
- a risk assessment of the intended task in accordance with PPA's Hazard Management Procedure.

6.1 Inherent Confined Space Risk Assessment

An Inherent Confined Space Risk Assessment (ICSRA) must be completed before entry into a confined space can be permitted. The ICSRA's development must include someone who has been deemed competent in a nationally recognised course for confined space entry within the last 2 years. An existing ICSRA may be used if it is re-validated by the Permit Authoriser before the associated Confined Space Entry Permit is issued.

6.2 Risk Assessment of the Intended Task

Prior to of the entry of a confined space, a risk assessment must be carried out in accordance with the Hazard Management Procedure. The risk assessment must

consider the hazards and controls listed in the ICSRA and other hazards associated with the work.

7. CONFINED SPACE PERMIT

All work where a person will enter a confined space requires an approved Confined Space Entry Permit (permit) to be issued before work commences in the confined space.

7.1 Permit Authorisation

The Permit Holder must complete all the details of the permit and ensure that an initial atmospheric test is completed. The permit must then be submitted to the Permit Authoriser with the risk assessments refer to Section 6. The Permit Authoriser must review the permit details and ensure that it is completed correctly, and that the initial atmospheric testing has been completed. The permit must be reviewed and approved by the Permit Authoriser before work can commence.

7.2 Permit Currency

Each permit is valid for the duration of the associated risk assessment of the intended task and cannot be greater than seven day or night shifts. Where the activities are required to carry over from day shift to night shift or vice versa by a different workgroup, the oncoming workgroup must complete a new risk assessment of the intended task and apply for a new permit accordingly.

7.3 Permit Issue and Transfer

A permit must be approved by the Permit Authoriser and accepted by the Permit Holder before any person can enter a confined space. The Permit Authoriser and Permit Holder cannot be the same person.

A permit may be transferred from one Permit Holder to another eligible person, who would become the Permit Holder.

7.4 Permit Log Extension Sheet

A Confined Space Entry Permit Log Extension Sheet is available to be attached to a permit when all available spaces have been used on the confined space entry/exit log or standby person logs.

7.5 Permit Close Out

A Permit Holder can return a permit to the Permit Authoriser under three conditions:

- not completed – confined space works are incomplete, and the area is not yet safe to return to normal operations;
- completed – confined space works are complete, and the area has been made safe to return to normal operations; or
- cancelled – confined space works were not undertaken under the permit.

Prior to returning a permit, the Permit Holder must inspect the work area to confirm all person/s, equipment, and material have been removed. If any equipment or materials are present, or the work area is otherwise in a condition unable to be

returned to service, this must be noted on the permit before returning to the Permit Authoriser.

7.6 Lost Confined Space Permit

In the event a permit is lost, the Permit Holder must:

- advise the work group that the permit has been lost, and instruct them to exit the confined space and not to re-enter;
- install adequate signage prohibiting any unauthorised entry to the work area; and
- carry out a thorough search for the permit, including contacting all persons who may have had control of the permit since the time it was issued.

A new permit may be raised once a Permit Authoriser is satisfied the existing permit is lost and not likely to be found. The new permit must be marked to indicate it is a replacement permit.

8. TRAINING, COMPETENCY AND DUTIES

All persons involved in confined space entry must meet the below requirements, as relevant.

Any person who is participating in, or supporting works identified as a confined space, must complete and be deemed competent in a nationally recognised course for confined space entry. Confined space entry training must have been completed within the last 2 years and as such be renewed at two yearly intervals.

8.1 Confined Space Entry Worker

The confined space entry worker must:

- not enter the confined space without a permit having been issued to the Permit Holder;
- have approval from the Permit Holder to enter the confined space;
- comply with all controls on the permit and the associated risk assessments (refer to Section 6 of this procedure);
- review and understand the inherent confined space risk assessment;
- complete the Confined Space Permit Entry/Exit log when entering and exiting the confined space; and
- understand their role in the emergency response plan and respond to an emergency accordingly.

8.2 Standby Person

The standby person/s must:

- comply with all controls on the permit and the associated risk assessments (refer to Section 6 of this procedure);
- review the inherent confined space risk assessment;

- be appointed and remain immediately at the nominated entry/exit point at all times there are personnel inside the confined space;
- be in continuous contact with the persons inside the confined space, by either visually or by verbal communication (portable communication is acceptable);
- where necessary, operate and monitor equipment used to ensure safety during entry and work in the confined space;
- complete the standby person log. The standby person signs onto the log when personnel enter the confined space and they sign off the log when the confined space work is completed. **Note:** standby person does not complete a standby log entry each time a person enters and exits the confined space.
- instruct persons to sign onto the entry/exit Log when as they enter and exit the space;
- understand their role in the emergency response plan and respond to an emergency accordingly; and
- instruct personnel to exit the space immediately if;
    - any dangerous or prohibited condition is detected (e.g., an alarm signalling a change in atmospheric conditions is triggered);
    - any person in the space exhibits behavioural or other symptoms that the space is unsafe; or
    - for any reason they are unable to perform the functions of Standby Person and a substitute Standby Person is not available.

8.3 Permit Holder

The Permit Holder must:

- complete all the relevant details of the permit. This includes ensuring an initial atmospheric test has been completed and results ae recorded on the permit;
- sign on as the Permit Holder;
- submit a completed permit and attachments to the Permit Authoriser for review and approval;
- ensure all conditions of the permit are complied with;
- ensure that all required atmospheric testing or monitoring is undertaken, and that results recorded on the permit;
- ensure confined space entry/exit logs and standby logs are completed and kept up to date;
- review the inherent confined space risk assessment; and
- ensure persons meet their confined space duties and comply with all controls on the permit and the associated risk assessments (see section 6).

The Permit Holder can undertake other roles associated with the confined space but cannot be the Permit Authoriser.

8.4 Permit Authoriser (Work Permit Issuer)

The Permit Authoriser must:

- have successfully completed the nationally recognised training, MSAPMPER300C Issue work permits and has been recorded and accepted by PPA.be appointed by their relevant PPA Business Unit Manager or delegate to approve confined space entry work and issue permits; and
- review the associated risk assessments (refer to Section 6 of this procedure); and
- review permit details and ensure they are completed correctly, including that an initial atmospheric test has been completed before approving a permit.

The Permit Authoriser can hold other roles associated with the confined space but cannot be the Permit Holder.

8.5 Atmospheric Testing Officer

The Atmospheric Testing Officer must:

- conduct atmospheric testing and record the results as per the requirements of the permit.

9. ISOLATION OF SERVICES

Prior to any person entering a confined space, all potentially hazardous services, normally connected to the space must, where it is possible to do so, be isolated to prevent:

- the introduction of any materials, contaminants, agents or conditions harmful to persons occupying the confined space; and
- the activating or energising in any way of equipment or services that could pose a risk to the health or safety of persons within the confined space.

Refer to Isolation and Tagging Procedure for details on isolation requirements.

10. PURGING A CONFINED SPACE

Where required, a confined space must be cleared of contaminants by use of a suitable purging agent. The purging agent must not be pure oxygen or gas mixtures with oxygen concentrations greater than 21%. Purging operations should be conducted with care to prevent damage to the structural integrity of the confined space. The method of purging must be risk assessed, and personnel cleared of the area where the risk of depletion of oxygen exists.

11. ATMOSPHERIC TESTING AND MONITORING

11.1 General Requirements

Atmospheric testing, retesting, and monitoring must be carried out consistent with the hazards identified in the associated risk assessments. The requirements for any atmospheric testing and retesting are:

- atmospheric testing must be carried out by an Atmospheric Testing Officer, using gas testing instruments suitable for the gases being tested for and used in accordance with the manufacturer's instructions. Note: A Standby Person can monitor gas testing instruments used for conducting atmospheric monitoring when an Atmospheric Testing Officer has set up the gas testing instrument;
- atmospheric testing must include testing for oxygen levels, airborne concentration of flammable contaminants, and potentially harmful contaminants;
- atmospheric testing must be conducted from outside the confined space prior to any entry to the confined space being permitted under a permit;
- where subsequent atmospheric testing is required from inside the space, such as in remote parts of the space, the following must be employed:
  - a risk assessment must be carried out in accordance with the Hazard Management Procedure, which will assess whether self-contained or externally supplied breathing apparatus needs to be worn by the Atmospheric Testing Officer. **Note**: Entry to a confined space is not permitted if LEL readings are above 5%, even with self-contained or externally supplied breathing apparatus;
  - the Atmospheric Testing Officer is issued a Confined Space Entry Permit with the description of the task to perform additional atmospheric testing;
  - continuous monitoring must always be used while personnel are conducting the test are within the space;
  - a Standby Person must be posted;
  - all services must be isolated; and
  - testing must commence adjacent to the entry point with a suitably calibrated explosive (flammable) atmospheric substance detector at all times while persons are present.
- if the confined space tested is within safe limits, the Atmospheric Testing Officer must record the test results on the permit and stipulate the re-test or monitoring requirements. As a minimum, frequency of retesting must occur when a new shift takes over;
- when determining the frequency of retesting, the Atmospheric Testing Officer must refer to the risk assessments, as well taking into consideration:
  - the results of the initial atmospheric test. Where initial atmospheric testing returns unsafe atmospheric results, continuous monitoring must be employed;

- the potential for a variation of oxygen levels or airborne contaminants – such as from sludge, scale or other deposits if disturbed or if heat is applied; and
- any other factor which may cause a change of internal conditions.

- when testing for gases, due regard should be given to the relative density of expected gases with samples taken at various levels within the confined space.

11.2 Safe Atmosphere

Before a person enters a confined space, and where it is technically feasible to do so, the atmosphere of the confined space must have:

- safe oxygen range (range is from 19.5% to 23.5% by volume);
- airborne contaminants that may cause impairment, loss of consciousness or asphyxiation reduced to below the relevant exposure standards. **Note:** PPA require for carbon monoxide (CO) below thirty parts per million (30ppm) and hydrogen sulphide (H2S) below ten parts per million (10ppm); and
- concentration of flammable airborne contaminants below 5% of the LEL.

Where the atmosphere has been assessed as unsafe for a person to enter, supplied air respiratory protection may only be permitted for use where other means to achieve a safe atmosphere are not practical.

11.3 Flammable Airborne Contaminants in the Atmosphere

Where flammable airborne contaminants are present in the atmosphere of a confined space, the following requirements apply:

- except in case of emergency response, entry is not permitted where the concentration of flammable airborne contaminants in the atmosphere is 5% of the LEL or greater, or where the oxygen concentration of the atmosphere exceeds 23.5%;
- where person/s have entered or are conducting tasks in a confined space, and the concentration of flammable airborne contaminant in the atmosphere increases to 5% of the LEL or greater but less than 10% of the LEL, all person/s must be removed immediately. No person can re-enter the confined space until the risk assessments have been reviewed and an Atmospheric Testing Officer has verified that the space has:
  - safe oxygen range (range is from 19.5% to 23.5% by volume);
  - airborne contaminants that may cause impairment, loss of consciousness or asphyxiation reduced to below the relevant exposure standards; and
  - concentration of flammable airborne contaminant below 5% of the LEL.

- if the gas concentration in the confined space reaches 10% of LEL, all personnel working in the confined space must exit immediately. No further access to the confined space is allowed until:
  - the reason for the increase in gas level has been rectified;
  - the confined space has been vented or purged;
  - a safe oxygen range (range is from 19.5% to 23.5% by volume) has been confirmed by an Atmospheric Testing Officer;
  - airborne contaminants that may cause impairment, loss of consciousness or asphyxiation are reduced to below the relevant exposure standards;
  - concentration of flammable airborne contaminant is below 5% of the LEL; and
  - the risk assessments are reviewed.

11.4 Calibration and Testing of Equipment

All equipment requiring calibration must be conducted in accordance with the manufacturer's instructions.

12. EMERGENCY PREPAREDNESS

A response plan must be developed, prior to work commencing, with consideration for the following:

- assessment of the work area to deem it as safe prior to commencing a response;
- possible incidents and injuries that could occur whilst undertaking the task;
- emergency equipment and first aid facilities required for each potential incident and injury;
- external emergency services that may be required and how to make contact with them;
- the role each person will play within the work group during a response;
- the training and competency of personnel in implementing the response plan and the use of relevant emergency equipment; and
- personal protection for personnel within the response team.

Consideration for response plans must be referenced in the risk assessment as a control.

12.1 Communication

A suitable method of communication must be established to raise the alarm in the event of an emergency.

All emergency events must be reported to the relevant emergency services organisation as required and PPA's Vessel Traffic Services Centre (VTSC) by the most expedient means.

Table 3: Emergency Contacts

EMERGENCY COMMUNICATION	
Emergency Contact	**Phone Number / Radio Channel**
Emergency Services (fire, police, ambulance)	000
Port Hedland VTSC – 24 Hours	Landline: (08) 9173 9030 Mobile: 0438 303 708 Mobile: 0427 842 740 VHF Radio: CH12 / CH16
Dampier/Ashburton VTSC – 24 Hours	Landline: (08) 9159 6556 Mobile: 0428 888 800 VHF Radio: CH11 / CH16

13. ENTRY / EXIT POINTS

Entry/exit points must be of an adequate size to permit rescue of all persons who may enter the confined space.

Except for boilers and pressure vessels, there should be at least:

- one entry having an aperture not less than 450 mm long by 400 mm wide, if rectangular, or not less than 450 mm in diameter, if circular, or having major and minor axes not less than 450 mm and 400 mm, respectively, if elliptical; or
- other suitable means of entry and exit meeting the intent of the above dimensions.

The means of entry to and exit from a confined space must always be kept clear.

Confined spaces should always be secured against unauthorised entry and, where practicable, permanently signposted at the entry point/s. The signs should include the Confined Space Identification Number (CS-ID).

14. HOT WORKS IN CONFINED SPACES

Hot works should be conducted outside of a confined space wherever practical.

Provision must be made for exhausting the fumes created by any hot works and for introducing a supply of clean air to maintain oxygen concentrations at safe levels.

Continuous monitoring must be considered for any hot works within a confined space. Hot works must be completed in accordance with the Hot Work Procedure.

15. DIVING WORK

Diving work inside a space determined to be a confined space is exempt from complying with these procedures. All diving in confined spaces must comply with PPA's Tank Diving Permit. Refer to Working On, Over, In or Near Water Procedure.

16. UTAH POINT ELECTRICAL SUBSTATIONS PROTECTED BY A FIREPASS SYSTEM

Utah Point electrical substations are protected by FirePass systems, where the oxygen content is set at 15%. These areas are not considered to be confined spaces and are exempt from complying with this procedure.

17. VENDORS AND VISITORS

All vendors and visitors on PPA controlled sites or working for PPA are subject to the same conditions and expectations as PPA employees and will adhere to this Confined Spaces Entry Procedure, unless otherwise stated and agreed upon as part of the contract company's safety management plan review.

18. RECORDKEEPING

All records must be managed in accordance with the Record Keeping Plan.

19. REFERENCES

Work Health and Safety Act 2020 Western Australia

Work Health and Safety (General) Regulation 2022 Western Australia

Code of Practice Confined Spaces WorkSafe 2023 Western Australia

Confined Space Entry Permit

Confined Space Entry Permit Log Extension Sheet

Confined Space Identification Register

Equipment Calibration Procedure

Hazard Management Procedure

Hot Work Procedure

Inherent Confined Space Risk Assessment

Isolation and Tagging Procedure

Record Keeping Plan

Tank Diving Permit

Work Health and Safety (General) Regulations 2022

Working On, Over, In or Near Water Procedure

20. PROCESS OWNER

The Director Health and Safety is responsible for this procedure.