



UNIVERSITY OF TASMANIA

## CONFINED SPACE ENTRY PROCEDURE

### OVERVIEW

The University of Tasmania is committed to continuously improving the management and standards of Occupational Health and Safety. This extends to minimising the risks associated with the requirement for employees to enter a confined space in the workplace. This procedure provides the minimum requirements for all confined space entry activities undertaken by employees and contractors.

### DEFINITIONS

#### Accountable Person:

An individual, who assumes responsibility for the health and welfare of any other person in a workplace by providing instruction, direction, assistance, advice or service, is deemed an Accountable Person in accordance with the *Workplace Health & Safety Regulations 1998*. All management and supervisory staff (which includes those with responsibility for students) are therefore considered "Accountable Persons".

#### Confined Space:

A confined space is an enclosed or partially enclosed space which:

- (a) is at atmospheric pressure during occupancy;
- (b) is not intended or designed primarily as a place of work;
- (c) may have restricted means for entry and exit; and
- (d) may –
  - (i) have an atmosphere which contains potentially harmful levels of contaminant;
  - (ii) not have a safe oxygen level; or
  - (iii) cause engulfment.

Confined spaces may include but are not limited to –

- (a) storage tanks, tank cars, process vessels, boilers, pressure vessels, silos and other tank-like compartments;
- (b) open-topped spaces such as pits or degreasers;
- (c) pipes, sewers, shafts, ducts and similar structures; and
- (d) a room or building which is rarely accessed and has limited or no ventilation such as a storage room or plant room.

#### Contractor:

For the purposes of this procedure a contractor is any person engaged by the University of Tasmania to perform work for gain or reward other than an employee.

#### Employee:

For the purposes of this Procedure, employee refers to any University of Tasmania staff member.

#### Responsible Officer:

Deans, Heads of Division, Heads of School and Administrative Sections have been designated as Responsible Officers under the *Workplace Health & Safety Act 1995*.

## RESPONSIBILITIES

### Accountable Person:

Accountable Persons need to ensure that employees are able to undertake confined space activities safely by implementing this procedure. Where an employee is required to supervise confined space activities, the Accountable Person is responsible for ensuring that delegated safety responsibilities are fulfilled and that appropriate supervision is provided. Accountable Persons must also ensure that appropriate records relating to confined space activities are kept.

### Contractor:

Contractors must ensure that any confined space entry is carried out in accordance with *AS 2865 Safe working in a confined space* and shall not enter a confined space without an authorised University of Tasmania confined space permit.

### Employee:

Whilst undertaking any confined space activity, employees shall do so in a manner which does not adversely affect their own health and safety, or that of others. They must immediately report to the Accountable Person any matter which may affect their own or others' health and safety.

### Responsible Officer:

Responsible Officers need to ensure that where confined space activities are undertaken that this procedure is implemented within their area of responsibility. Ensure that School/Section specific guidelines are developed where necessary, and that they are consistent with the information contained in this document.

### Physical Resources:

- Ensure that all confined spaces have been appropriately labelled and access restricted where practicable.
- Ensure that risk assessments are carried out and recorded for all confined space entry.
- Ensure employees and contractors required to enter confined spaces have had the relevant training for entry to confined spaces and associated equipment.
- Nominate Confined Space Co-ordinator(s) for all University of Tasmania workplaces.
- Provide appropriate resources to monitor compliance with the confined space policy and procedures.

### Confined Space Co-ordinator:

- Is responsible for the authorisation of confined spaces entry permits.
- Shall maintain a register of all confined spaces.
- Retain copies of all completed confined space entry permits.

## PROCEDURE

### Notification

All confined spaces identified must be notified to a Confined Space Co-ordinator, to be included on the Confined Space Register (Attachment 1).

### Permits to Work

A Confined Space Entry Permit (Attachment 2) must always be completed prior to confined space work being carried out. In addition, a Hot Work Permit (see Hot Work Procedures) must be completed prior to any hot work being carried out in the confined space.

The authorised confined space permit shall be kept at the entrance of the confined space.

### Registers

A Confined Space Register (Attachment 1) shall be compiled for all University of Tasmania workplaces. The Registers should be readily accessible by all Physical Resources personnel and maintained by the Confined Space Co-ordinator. When a new confined space is identified or eliminated, the appropriate Register shall be updated.

## Labelling of Confined Spaces

All confined spaces will be conspicuously marked: "Confined Space – No Unauthorised Entry"

## Assessment

The Confined Space Co-ordinator(s) shall ensure that there is a suitable and sufficient risk assessment conducted prior to entry to a confined space.

Assessments shall be completed with the participation of employees required to work in, or enter the confined space, and relevant professionals where appropriate. The assessment shall be in writing and take into account the following:

- the nature of the confined space;
- the work required to be done, including whether it is necessary to enter the confined space;
- the range of methods by which work can be done;
- the hazards involved and associated risks;
- the actual method selected and plant proposed;
- emergency and rescue procedures; and
- confined space atmosphere monitoring.

This should include obtaining additional information about health hazards, a thorough evaluation of the work practices and examination or testing of existing control measures. Refer to the Confined Space Risk Assessment Checklist (Attachment 3).

The completed risk assessments and any additional information shall be retained in the confined spaces register by the Confined Space Co-ordinator(s).

## Control

Complete elimination of the need to enter the confined space should be the first consideration. If this is not practical, consideration shall be given to each of the following control measures (in priority order) - substitution, isolation, engineering controls, administrative controls and use of personal protective equipment. It may be necessary to use a combination of control measures to eliminate or minimise the risk. The use of personal protective equipment as a control measure shall be limited to situations where other controls are not practicable or where personal protective equipment is used in conjunction with other measures to increase protection.

## Atmospheric Monitoring

A competent person shall conduct where the risk assessment identifies it as necessary, atmospheric monitoring of the confined space. Results of any monitoring shall be recorded on the confined space entry permit. Monitoring results shall be made available to all employees who may have to enter the confined space.

## Training

Employees or contractors required to enter and perform work in confined spaces, supervise confined space entry work or carry out the stand-by role, must be trained in accordance with *AS 2865 Safe working in a confined space*. Specialist training, for example, in breathing apparatus shall be provided as appropriate.

## Breathing Apparatus

Equipment used in confined space entry must conform to *AS/NZS 1715-1994 Selection, use and maintenance of respiratory protective devices*, and *AS/NZS 2704-1984 Portable cylinders for resuscitators and self-contained breathing apparatus (non-underwater) safety guide*.

## REFERENCES

This Procedure has been developed in reference to the following documents:

- *Workplace Health and Safety Act 1995*
- *Workplace Health and Safety Regulations 1998*
- *Australian Standard, AS 2865-1995, Safe working in a confined space*

- *Australian and New Zealand Standard, AS/NZS 1715-1994, Selection, use and maintenance of respiratory protective devices*
- *Australian and New Zealand Standard, AS/NZS 2704-1984, Portable cylinders for resuscitators and self-contained breathing apparatus (non-underwater) safety guide*
- *Australian and New Zealand Standard, AS/NZS 1716:1994, Respiratory protective devices*

Approved by OH&S Committee : 14<sup>th</sup> September, 2000

**Disclaimer**

This Procedure was designed for use within the University of Tasmania. The University makes no guarantee and assumes no responsibility as to the absolute correctness for all circumstances or for the adaptation outside the University of Tasmania environment.



# CONFINED SPACE ENTRY RISK ASSESSMENT

1. A risk assessment shall be performed by a Confined Space Co-ordinator.  
 2. This form is a guide to assist the Confined Space Co-ordinators in completing a risk assessment. Other factors may need to be considered depending upon the type of Confined Space being entered and the work being performed in that space.

**HAZARD IDENTIFICATION AND RISK ASSESSMENT**

**Factors to Assess**

For each hazard estimate the risk, Low(L), Medium(M), or High(H) and tick the appropriate box.

	L	M	H
<b>Entrance/Exit to Confined Space</b>			
• What is the potential of the entrance/exit to the Space restricting access (eg. a manhole)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of the entrance/exit of the Space being difficult to reach (eg ladders, steps)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of the entrance/exit becoming blocked from either side?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Also consider how these factors would impact upon a Confined Space Rescue.

**Services to the Confined Space**

• What is the potential of electrocution?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the likelihood of a leak or spill from any of the services to the Confined Space (eg. water, steam, CO2, caustic, Cyanide)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Confined Space Atmosphere**

• What is the potential of the space becoming oxygen deficient during the entry (eg. due to physical activity, combustion sources?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of a hazardous substance accumulating in the atmosphere due to the activity, or from the last chemical stored in the space?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the possibility of the atmosphere being flammable or explosive (eg due to dust, excess oxygen)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Work within the Confined Space**

• What is the potential of the activity increasing the noise levels in the Confined Space?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential for the activity increasing the temperature in the Confined Space?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of somebody falling, tripping or slipping in the Confined Space?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the possibility of entanglement, crushing, etc. due to moving equipment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of Hot Work equipment changing the conditions in the Confined Space?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the possibility of the Confined Space's dimensions, surface etc. making manual handling difficult?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of the PPE introducing an additional hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of limited visibility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the potential of physical health and fitness of the person(s) entering the Space impacting upon their personal safety?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• What is the possibility that it will be difficult to maintain constant communication?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Other Hazards**

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**RISK CONTROL**

Risk is to be controlled using hierarchy of control measures:

1. elimination (completely remove from hazard);
2. substitution (replace the hazard with a lesser hazard);
3. isolation (remove the people from the hazard);
4. engineering controls (modifying plant/equipment);
5. administration controls (procedures);
6. personal protective equipment.

Based on your assessment of the hazards, identifying the actions that will need to be taken to minimise the risks.

**DETAILS OF RISK CONTROL MEASURES**

**Equipment Required for Emergency Rescue (including First Aid)**

---

---

---

---

---

---

**Isolation of Services and Equipment**

---

---

---

---

---

---

**Actions to Create a Safe Atmosphere**

---

---

---

---

---

---

**Personal Protective Equipment**

---

---

---

---

---

---

**Other Risk Control Measures**

---

---

---

---

---

---

ASSESSOR(S)  
 NAME(S): \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_



**CONFINED SPACE ENTRY PERMIT**

1. NAME AND ADDRESS  
 .....  
 (a) Employer's Name  
 .....  
 (b) Location of Work  
 .....  
 (c) Employees Assigned  
 .....  
 (d) Outside Contractors  
 .....

2. DESCRIPTION OF WORK TO BE UNDERTAKEN  
 .....  
 .....

The whole of the remaining detail of this permit must be signed by the campus confined space co-ordinator before work is to proceed and only work listed may be done.

3. ESTIMATED DURATION OF WORK  
 .....  
 .....

4. ISOLATION OF CONFINED SPACE  
 The items ticked below have been isolated or made safe:  
 Pipelines (water, steam, gas, etc.)  
 Mechanical/electrical drives  
 Sludges/deposits/waste  
 Harmful materials  
 Electrical services  
 Warning notices, locks or tags have been fixed to means of isolation  
 Radiation services  
 Other (please specify)  
 .....

5. POSSIBLE HAZARDS LIKELY TO BE ENCOUNTERED (refer to risk assessments)  
 .....  
 .....

6. RISK ASSESSMENT READ AND UNDERSTOOD BY ALL PERSONS INVOLVED IN THE CONFINED SPACE ENTRY, INCLUDING STAND-BY PERSON

Signed (C.C.S Co-ord)  
 .....  
 name & date

signed (person entering confined space)  
 .....  
 name & date

signed (stand-by person)  
 .....  
 name & date

7. ADDITIONAL PERMITS  
 Are there any other permits required?

No  
 Yes. Please state what those permits are and attach copies to the permit-to-work:  
 .....

C.C.S. Co-ord: .....

8. ATMOSPHERIC TEST REQUIREMENT  
 The test equipment has been calibrated and the atmosphere has been tested to ensure safe oxygen levels, no flammability and/or explosive levels and for the following contaminants.  
 (Fill in details and results of test.)

Gas	Result	Result	Result	Result	Acceptable
% LEL					<5%
O <sub>2</sub> % v/v					>19.5 - <23.5%
CO ppm					TWA < 50ppm STEL < 400ppm
H <sub>2</sub> S ppm					TWA < 10ppm STEL < 15ppm
SO <sub>2</sub> ppm					TWA < 2ppm STEL < 5ppm
Other (specify)					
Other (specify)					
Date					
Time					
Tested by (initials)					

The atmosphere must be rechecked (give hourly frequency): .....  
 Competent person: .....

The space is safe for entry using the equipment below:  
 Forced ventilation fan (blowing in or out)  
 With a supplied air or self contained breathing apparatus  
 With an air hood or self filtering air supply  
 Full face mask (specify) .....  
 Half face mask (specify) .....  
 Dust mask  
 No respiratory protection required

Testing time: .....  
 Date: .....  
 Competent person: .....

9. USE OF CHEMICAL AGENTS  
 (Details to be completed)  
 No chemical agents other than those listed below may be taken into the confined space.

(a) .....  
 (b) .....  
 (c) .....  
 (d) .....

10. STAND-BY PERSONNEL AND RESCUE ARRANGEMENTS  
 (a) Stand-by persons are: (identify)  
 .....  
 (b) Rescue and emergency procedures are understood by all involved in the confined space entry/work and by emergency personnel.

C.C.S. Co-ord: .....

11. PRECAUTIONS  
 The following (ticked) have been implemented:  
 Warning notices/barricades are in position.  
 Smoking has been banned in the confined space.  
 Special precautions (indicate).  
 .....

C.C.S. Co-ord: .....

12. PERSONAL PROTECTIVE EQUIPMENT  
 The following personal protective equipment (ticked) shall be worn:  
 Immobilisation warning device (if available).  
 Supplied-air respirators  
 Air purifying respiratory protective devices.  
 Safety harness and/or safety line or lifeline/rescue.  
 Eye protectors.  
 Hand protection.  
 Foot protection.  
 Protective clothing.  
 Hearing protectors.  
 Head protection.

C.C.S. Co-ord: .....

13. AUTHORISATION AND ACCEPTANCE  
 (a) The confined space described above is in my opinion in a safe condition for the work to be done, provided that the precautions above are fully observed.

C.C.S. Co-ord: .....  
 Time ..... Date:.....  
 Valid until:  
 Time ..... Date:.....

(b) I/We understand the procedures required for entry and work in the confined space and the protective measures and equipment to be used.

Person entering confined space: .....  
 Time ..... Date:.....  
 Valid until:  
 Time ..... Date:.....

Stand-by person: .....  
 Time ..... Date:.....  
 Valid until:  
 Time ..... Date:.....

14. SCBA CONTROL CHART

Gauge pressure	full duration	working duration
200 Bar	45 mins	35 mins
The following is a guide for fire ground calculations only and is not based on 40 l/m consumption		
150 Bar	30 mins	20 mins
100 Bar	20 mins	10 mins
50 Bar (warning whistle)	10 mins	0 mins

Working Duration = Full duration less 10 min Safety Margin  
 Fire Ground Calculation = Divide by 10 double result minus 10  
 Example: Gauge pressure 120 bar  
 120÷10=12; 12x2=24; 24-10=14 minutes working duration

15. PERSONS ENTERING/VACATING  
 This section is to be used each time a person enters or leaves the confined space during the life of this permit.

Operators Name	Gauge press (if using SCBA)	Time in	Time due out	Time out	Location
1.					
2.					
3.					
4.					

16. SIGNING OUT  
 All persons have left confined space and further entry should not be permitted unless a new entry permit is signed.

C.C.S. Co-ord: .....

17. WORK COMPLETED/SUSPENDED  
 All persons/equipment have been withdrawn, the work has been completed and any plant/machinery is/is not fit for use (delete as appropriate).  
 The following observation(s) of unsatisfactory aspects of the operation in the confined space are noted for attention prior to undertaking similar operations (attach separate sheet if necessary).  
 .....

18. ACCEPTANCE OF COMPLETED JOB  
 I accept that the work as defined in Section 2 of this permit has been completed.

C.C.S. Co-ord: .....