Procedure: Confined space safety

Purpose
To outline the procedures for confined space safety.

Definitions

Confined space is an enclosed, or partly enclosed, space which is not intended, or designed, primarily as a place of work, may have a restricted means for entry and exit, and, may:

- not have a safe level of oxygen,
- contain harmful levels of airborne contaminants (or the potential for such to be released by the nature of the work being undertaken within the space),
- have unfavourable natural ventilation,
- facilitate engulfment.
- Confined spaces may include, but are not limited to, the following:
  - tanks and vessels: storage tanks, vacuum vessels, pressure vessels, boilers, silos, barns, holds,
  - open-topped spaces: pits, drains, trenches, degreasers, drums
  - tunnels: tunnels, sewers, shafts, pipework, ductwork, risers
  - building space which is rarely accessed: storage room, plant room, remote room, ceiling space, basement
  - laboratory spaces: unventilated cool rooms, liquid nitrogen rooms, lifts

The following practical matters can be noted:

- a space that would not normally be classified as a confined space may become a confined space by the nature of the work that is done within it, e.g. welding, liquid nitrogen operations,
- a location primarily designed as a place of work would routinely be expected to have the risks associated with the work and the space effectively controlled by relevant workplace practices,
- naturally ventilated roof spaces and sub floor areas (above ground level),
where there is no source of atmospheric contamination, are areas not usually considered confined spaces.

**Hot Work** is defined as welding, thermal or oxygen cutting, heating, fire-producing or spark-producing operations that may increase the risk of fire or explosion.

**Trained Person** under these procedures is a person who has successfully completed a training course in confined space safety presented by a Registered Training Authority endorsed by the Australian National Training Authority.

A register of ANU staff who are trained persons under these procedures shall be maintained by the Occupational Health and Safety Branch at [Appendix B](#).

**Budget Unit** refers to a College, School, Division, Centre, Department, or Unit designated by the Vice–Chancellor as responsible for an activity of the University.

### Procedure

#### Scope

1. This publication summarises the operating procedures of The Australian National University to control the hazard posed by a confined space and to minimise the risk of injury or disease arising from such a source.

2. Confined spaces at the University shall be eliminated where possible. Otherwise, the need for access into the confined space shall be limited. Where access into the confined space is necessary, appropriate controls shall be in place such that the risk associated with entry into and performance of work within the confined space is minimised as far as is reasonably practicable.

3. These procedures shall be followed by managers, employees, visitors, students and contractors of the University.

#### Confined space Procedures

**Elimination of confined spaces.**

4. Confined spaces can be hazardous and have been the cause of many injuries and deaths in the workplaces of Australia. All reasonable efforts shall be made to eliminate any unnecessary confined spaces in the University.

**Limit the Need for Access to a confined space.**

5. Where it is not reasonably practicable to eliminate a confined space, all reasonable efforts shall be made to design the confined space and its contents so as to limit the need for access into the confined space.
Responsibility for Approving and Controlling Entry into and Work within a confined space

6. Access into a confined space shall be controlled and no access shall be permitted unless justified.

7. Where entry into a confined space is necessary, appropriate procedures shall be followed such that the risk associated with entry into and performance of work within the confined space is minimised as far as is reasonably practicable.

8. The responsibility for approving and controlling entry into and work within a confined space, in compliance with these procedures, resides with:
   a. Facilities & Services for work in confined spaces associated with building or ground services under the control of Facilities and Services, including work being undertaken by a contractor employed by Facilities and Services.
   b. the Budget Unit, as occupier of a building, for work in confined spaces associated with laboratories, apparatus, or activities under the control of the Budget Unit, including work being undertaken by a contractor employed by the Budget Unit.
   c. the line officer delegated responsible for approving the entry to a confined space must be trained in the procedures under Section 6.

Hot Work Permit

9. Hot work in, or on the exterior surfaces of, a confined space shall not be commenced until, additionally, a hot work permit is completed and approved by the responsible Budget Unit.

Signage for a confined space

10. Facilities and Services or the responsible Budget Unit, shall ensure appropriate signage is affixed to the entrance of a confined space under their control.

11. The sign shall indicate:
   - the confined space register number as given in Appendix A. The register number allows access to specific information on the location, description and potential hazards of the confined space,
   - Budget Unit contact for approval for access,
   - "DANGER" in bold letters,
   - "ENTRY BY PERMIT ONLY"
12. Examples of recommended signage are provided in Appendix D.

Emergency Response/Rescue Procedures

13. An emergency in a confined space could vary widely in degree or type, and include:
   - employees are uninjured and evacuate themselves,
   - employees are injured, but still capable of evacuating themselves,
   - employees are assisted to evacuate by persons remaining outside the space,
   - entry is required in order to evacuate employees,
   - entry is required to provide medical treatment.

14. In the event of an emergency within a confined space, the natural reaction of the standby person to instantaneously enter and attempt a rescue is very dangerous and should not be attempted.

15. Suitable emergency response and first aid procedures and provisions shall be planned, established, regularly rehearsed, and implemented in response to an emergency in a confined space.

16. In cases of emergency response involving emergency services personnel, these persons shall be made aware of the conditions in the confined space prior to entry.

General response for an emergency

a. The standby person shall assess the extent of the emergency and call for help from the appropriate resource:
   - 52249 ANU Security,
   - for Fire Brigade and Ambulance attendance,
   - 0-6207 8400 Emergency Services,
   - 52193 OHS Branch,
   - Budget Unit supervisor.

b. Commence forced air ventilation to purge the confined space, if relevant. Never increase oxygen levels in the confined space.

c. Retrieve the injured person using lifeline or harness technique.

d. The standby person under no circumstances should attempt to enter the confined space, unless properly trained and equipped to deal with an emergency and there are other personnel outside the confined space to
assist.

e. The confined space risk assessment checklist and register detailing the characteristics of the confined space contains important information to assist rescue workers.

Identification and Documentation of confined spaces and the Responsible Budget Unit

17. Any potential confined space identified by management or employees shall be notified to the Occupational Health and Safety Unit for evaluation.

18. The Work Environment Group (Human Resources Division) shall undertake this evaluation and maintain a web-based register of known confined spaces at the University at Appendix A. The register shall list:

- confined space number, location and description,
- potential hazards within the confined space,
- estimated entries per year into the confined space,
- presence of appropriate signage, log book and entry permit system for the confined space, and
- the Budget Unit responsible for approving and controlling the entry into and the work within the confined space,
- a contact person at the Budget Unit.

Approval and Control of Entry/Exit to a confined space

19. The responsible Budget Unit shall ensure that no person enters a confined space or works within a confined space without approval. The approval shall be based on the following conditions having been met prior to entry into the confined space:

   a. the persons who are to enter the confined space and the stand-by & rescue person who is to remain outside the confined space during the entry period have appropriate physical competence and are trained persons under these procedures, and

   b. the entry-persons are competent to undertake the specific tasks (such as inspection, repair, testing, cleaning, etc.) to be undertaken in the confined space and any equipment, including personal protective equipment, is appropriate and considered as part of the risk assessment, and

   c. the Budget Unit, the entry-persons and the stand-by & rescue person (in conjunction with the Occupational Health and Safety Branch, as appropriate)
have jointly completed a suitable and sufficient risk assessment. Hazards to be considered are listed in Appendix A. A pro forma to assist the undertaking of such a risk assessment is given in Appendix C – confined space Risk Assessment and Entry Permit, and

d. suitable isolations have been completed, including actions to prevent the accidental introduction of materials into the confined space (e.g. service drains from a laboratory) and de-energising of potential energy in mechanical/electrical systems, and

e. the atmosphere in the confined space has been tested and appropriate respiratory protection is to be used, and

f. the entry–persons and the stand–by & rescue person have received a signed authority from the Budget Unit for the specific entry, as per Appendix C – Confined Space Risk Assessment and Entry Permit.

20. The responsible Budget Unit shall ensure that all persons have left the confined space before the confined space is returned to normal use.

21. As part of the confined space entry process, the responsible Budget Unit shall also consider the following issues:
   
   • the effect on other areas of isolation of services to the confined space,
   
   • hazards to other persons potentially created by the confined space operations
   
   • if the confined space is classified as a research installation, persons who are not trained persons (for the purposes of Section 5.a above) may enter and work in the confined space while in the company of a trained person.

Training and Accreditation

22. All entry–persons, stand–by & rescue–persons, and person authorizing entry shall
   
   • have successfully completed a training course in confined space safety (and attend a refresher course every 2 years) presented by a Registered Training Authority endorsed by the Australian National Training Authority,

   • hold a current confined space training certificate and card.

23. A register of ANU staff who are trained persons under these procedures shall be maintained by the Work Environment Group at Appendix B.

Records Maintenance

24. The responsible Budget Unit shall maintain records of the confined space
risk assessment and entry permits approved by the Budget Unit, Appendix C. The records shall be kept for at least five years.

25. The Work Environment Group shall maintain a register of current employees trained under these procedures, Appendix B.

APPENDIX A

Register of confined spaces

APPENDIX B

Register of trained persons

APPENDIX C

Confined space Risk Assessment and Entry Permit

APPENDIX D

Examples of recommended signage