



Procedure: Confined space safety

Purpose

To define the requirements for the control of hazards associated with the use of confined spaces at the Australian National University to ensure compliance with the *Work Health and Safety Act 2011 (Cth)* and *Work Health and Safety Regulations 2011 (Cth)* and the *Safety, Rehabilitation and Compensation Act 1988 (Cth)*. This procedure ensures confined space evaluations and work is completed in accordance with the criteria set out in Australian Standard (AS) 2865:2009 – Confined Spaces and the Work Health and Safety (WHS) Confined Spaces Code of Practice. This procedure is linked to the University's Work health and safety policy and is one of the Safe Work Procedures within the WHS Management System.

Definitions

Local area refers to a College, Research School or Service Division of the University.

Confined space is defined as 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 may cause injury from fire or explosion.

Hot Works is any activity such as welding, cutting, heating, fire-producing or spark-producing operations such as abrasive blasting.

Procedure

Scope

1. This procedure is applicable to all spaces identified as a confined space within the University.

Identification of confined spaces

2. 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, sewers, shafts, pipework, ductwork, risers;
- building space which is rarely accessed: storage room, plant room, remote room, ceiling space, basement and lift wells; and
- laboratory spaces: unventilated cool rooms, liquid nitrogen rooms.

3. All confined spaces at the University are risk assessed by the Work Environment Group (WEG) who maintains a [web-based register](#) of known confined spaces at the University. The register lists:

- 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;
- the local area responsible for approving and controlling the entry into and the work within the confined space; and
- a contact person at the local area.

Signage

4. The responsible local area shall ensure appropriate signage is affixed to the entrance of a confined space under their control. The sign shall indicate:

- the confined spaces register number as given in the register. This allows access to specific information on the location, description and potential hazards of the confined space;
- local area contact for approval for access;
- "DANGER CONFINED SPACE" in bold letters; and
- "ENTRY BY PERMIT ONLY".

Responsibilities

5. College Deans, Research School and Service Division Directors, or their nominee, who are responsible for the engagement of workers undertaking work in confined spaces are responsible for:

- ensuring appropriate signage is erected to identify any confined spaces within their area of control;
- ensuring access control and permit processes are established and implemented for all confined spaces within their area of control;
- reviewing and ensuring adequacy of hazard assessments and entry permits for all access to and work within confined spaces within their area of control; and
- ensuring all workers engaged to undertake work that involves confined space entry are competent as per the requirements of this procedure.

6. Facilities and Services Division is responsible for:

- ensuring appropriate signage is erected to identify any confined spaces within their area of control;
- ensuring access control and permit processes are established and implemented for all confined spaces within their area of control;
- reviewing and ensuring adequacy of hazard assessments and entry permits for all access to and work within confined spaces within their area of control;
- ensuring all workers engaged to undertake work that involves confined space entry are competent as per the requirements of this procedure.

7. The Work Environment Group (WEG) is responsible for:

- maintaining a confined spaces register; and
- maintaining a register of ANU staff that are trained in the requirements of this procedure.

Risk control

8. Confined spaces can be hazardous and have been the cause of many deaths in Australian workplaces. All reasonable efforts shall be made to eliminate any unnecessary confined spaces in the University. Where not reasonably practicable to eliminate, any risks associated with work in a confined space must be identified, eliminated or if not practicable to eliminate the risk, reduced so far as is reasonably practicable.

Hazard assessment

9. All confined spaces at the University shall be covered by a confined space

[hazard assessment and entry permit](#) and shall be revised whenever changed circumstances indicate that the assessment is no longer adequate. This hazard assessment must be completed by competent personnel, appear in writing and must be accompanied by a [confined space entry permit](#). The permit requires renewal every shift (12 hours as a maximum).

10. Suitable isolations must 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-energizing of potential energy in mechanical/electrical systems, and the atmosphere in the confined space has been tested and appropriate respiratory protection is to be used. Entry is not permitted unless the atmosphere has been measured as being between 18 and 22% Oxygen, even if wearing Self Contained Breathing Apparatus.

11. The entry-persons and the stand-by & rescue person must have received a signed authority from the local area for the specific entry. The responsible local area shall ensure that all persons have left the confined space before the confined space is returned to normal use. The confined space must be temporarily closed when not being worked on to prevent uncontrolled entry during breaks and/or end of shift

12. Both the hazard assessment and the [confined space entry permit](#) must be posted near the point of entry to all confined spaces.

13. [The hazard assessment and entry permit](#) shall be reviewed prior to entry into a confined space.

14. Where external contractors are involved, Facilities and Services or the local area who engaged the contractor will be responsible for isolation of services and the assessment of generic hazards associated with the confined space. However where the contractor's work method or process may introduce hazards, consultation between the contractor and the University's representative forms the basis for the contractor's hazard assessment. The control of hazards associated with the contractor's work method shall be the sole responsibility of the contractor.

Confined space entry permit

15. The responsibility for approving and controlling entry into and work within a confined space, in compliance with these procedures, resides with:

- Facilities and 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;

- the local area, as occupier of a building, for work in confined spaces associated with laboratories, apparatus, or activities under the control of the local area, including work being undertaken by a contractor employed by the local area; and
- the manager delegated responsibility for approving the entry to a confined space must be trained and deemed competent.

16. [Confined space entry permits](#) provide relevant safety information to those entering the confined space. It is the responsibility of the local area to complete the permit prior to entry into the confined space. As part of the confined space entry process, the responsible local area 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; and

17. communication with standby persons. Those performing work in the confined space are not permitted to enter the confined space until the local area has completed the permit and the authority to enter has been signed off. Those performing work in the confined space must read the associated hazard assessment and permit and then sign onto the permit before entering the confined space and sign out when exiting each time.

18. Along with the hazard assessment, the confined space entry permit must be posted at the point of entry.

Provision for Personal Protective Equipment

19. Consultation between management and workers assigned to the confined space should be the process to determine personal protective equipment to be worn and shall form part of the hazard assessment.

20. Always consider alternatives for welding and cutting jobs like arc welding or LPG cylinders which have less risk than acetylene. Alternatively, hire an expert who regularly uses acetylene as this also reduces the storage required and risk on campus.

Rescue

21. The University shall supply and maintain suitable communication, support, first-aid and rescue services and where access and egress requires climbing into or out of a confined space – suitable harnesses and fall arrest equipment (so far as is reasonably necessary to ensure health and safety). This shall be determined by

the hazard assessment.

22. Any confined space deemed “immediately dangerous to life and/or health”, will require specialist contractor involvement with their own rescue procedures. These rescue procedures are separate to the standard site procedures and are to be implemented prior to entry. These procedures must be defined in the hazard assessment.

23. Facilities and Services Division have a fully equipped confined space trailer that contains confined space and rescue equipment for University use.

24. Contractors are to supply their own Personal Protective Equipment (PPE), rescue/retrieval equipment communication systems and stand by personnel as determined by the hazard assessment.

Emergency

25. All confined space hazard assessments must detail the emergency procedure in place for that particular confined space. Communication for rescue must be tested prior to entry and noted as such on the confined space permit.

26. Safety harnesses, lines and lifting equipment shall be supplied where there is a risk of a fall that could cause any injury. This equipment shall also be worn where rescue can be performed by direct route, either vertical or horizontal.

27. 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.

28. 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

29. A rescue plan shall be developed as part of the procedure with the necessary required and identified equipment immediately available at the location.

30. The standby person shall assess the extent of the emergency and call for help from the appropriate area or emergency service:

- ANU Security at 52249 or 02 6125 52249; or
- Emergency Services – Fire Brigade and Ambulance.

31. The local area supervisor shall:

- commence forced air ventilation to purge the confined space, if relevant.

However oxygen levels are not to be increased in the confined space; and

- retrieve the injured person using lifeline or harness technique

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

Hot work

33. A hot work permit approved by the responsible local area is required for any work to be undertaken in, on or near a confined space or its exterior surfaces.

Stand by person (emergency response person)

34. Where the hazard assessment indicates, a stand by person (s) shall be positioned by the entry point to the confined space. The stand by person shall wear a Hi-Vis vest for easy identification.

Monitoring

35. Atmospheric testing and analysis shall be carried out prior to entry to a confined space by competent persons. The need to continue monitoring will be defined in the hazard assessment as defined in AS/NZS 2865: 2009 Confined Spaces.

Design, manufacture, supply and modification

36. To minimise the associated problems inherent in confined spaces it is the responsibility of the person who designs, manufactures or supplies a confined space to ensure that the following issues be considered:

- the design shall seek to identify areas that could potentially fit the description of a confined space as given above;
- areas of confined space shall be eliminated wherever possible;
- in situations where it is not possible to eliminate the requirement of confined spaces every effort shall be made to ensure that confined spaces are kept to a minimum;
- so far as is reasonably practicable, eliminate the need for persons to enter the confined space;
- that there is sufficient access and egress to the confined space with special consideration given to emergency situations;
- the design should seek input from relevant operating and/or trade

personnel wherever confined spaces are required; and

- the design shall refer to the design considerations as given in AS/NZS 2865: 2009 Confined Spaces.

37. In the case of modifications, the person who modifies a confined space must ensure that the modification does not detrimentally affect the safe means of entry and exit. All changes must be reflected in Piping and Instrumentation Diagrams (P&ID) and reflected as a change in the confined spaces register and any associated hazard assessments.

Atmospheric testing

38. The University will so far as practicable, purge or ventilate inherent contaminants to below the current exposure standards.

39. Where the work method affects these levels, the levels through natural or forced ventilation must be reduced to below the current Work Safe exposure standards.

40. Where the hazard assessment indicates problems or potential problems with the atmosphere, testing prior to entry and if necessary re-testing must be conducted.

41. No entry is to occur outside the range of 18–22% Oxygen for any reason.

Records and documentation

42. The responsible local area shall maintain records of the confined space hazard assessment and entry permits approved by the local area.

Training

43. All local areas shall ensure that all entry–persons, stand–by & rescue–persons, and persons authorizing entry:

- have successfully completed a training course in confined space safety accordance with AS/NZ 2865 (and attend a refresher course every 2 years) presented by a Registered Training Authority (RTO) endorsed by the Australian National Training Authority; and
- hold a current confined space training certificate and card.

44. This module is listed in the ANU Training Matrix (WHS Training Procedure). The immediate manager or supervisor is responsible for ensuring that the training records are maintained and recorded on personal files within the Human Resources Management System (HRMS).

Sources

Legal and other requirement
<i>Work Health and Safety Act 2011 (Cth)</i>
<i>Work Health and Safety Regulations 2011 (Cth)</i>
<i>Safe Work Australia – Confined Spaces – Code of Practice</i>
AS/NZS 2865:2009 Confined spaces

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