

# HRP19: Confined Spaces

## Section 1 - Purpose and Scope

(1) The purpose of this procedure is to ensure the management of risks associated with confined space at Southern Cross University (SCU) are appropriately managed and controlled.

(2) The purpose of this procedure is to ensure Southern Cross University's management, employees, contractors, students, visitors and others are aware of the risks associated with confined space in the workplace, management strategies and to provide advice on appropriate controls.

(3) All employees, students and others including both independent contractors and contractors under SCU control are to be made aware of and follow this procedure.

(4) This Procedure applies to all SCU Work Units and sites. The procedure aligns with WHS legislation in the relevant jurisdictions SCU operates in.

## Section 2 - Definitions

Atmospheric Monitoring	Means the continuous monitoring of oxygen levels for any variation and presence of atmospheric contaminants (combustible or toxic).
Breathing Apparatus	Means a device that supplies breathable air for use in areas with high levels of airborne contaminants or irrespirable atmospheres (Self-contained breathing apparatus or self-rescuer)
Competent Person	A person who has acquired through training, qualification or experience the knowledge and skills to carry out the task
Confined Space:	Means an enclosed or partially enclosed space that: <ul style="list-style-type: none"> <li>• is not designed or intended primarily to be occupied by a person; and</li> <li>• is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space; and</li> <li>• is or is likely to be a risk to health and safety from: <ul style="list-style-type: none"> <li>• an atmosphere that does not have a safe oxygen level, or</li> <li>• contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion, or</li> <li>• harmful concentrations of any airborne contaminants, or</li> <li>• engulfment</li> </ul> </li> </ul>
Duty holder	Any person who owes a work health and safety duty under the WHS Act including a person conducting a business or undertaking, a designer, manufacturer, importer, supplier, installer of products or plant used at work (upstream), officer or an employee.
Employee	Any person who carries out work for a person conducting a business or undertaking, including work as an employee, contractor, or subcontractor (or their employee), self-employed person, apprentice or trainee, work experience student, an employee of a labour-hire company placed with a 'host employer' or a volunteer.
Entry Permit	A formal document that authorises and outlines the conditions and safety measures required for entry into a confined space, ensuring that all hazards have been assessed and controlled.

Hazard	A situation or thing that has the potential to harm a person. Hazards at work may include noisy machinery, a moving forklift, chemicals, electricity, working at heights, a repetitive job, bullying and violence at the workplace.
Hazardous Atmosphere	An environment within a confined space that poses a risk to health and safety due to the presence of toxic, flammable, or asphyxiating substances or conditions.
Isolation	The process of physically disconnecting or locking out all energy sources and potential hazards to prevent accidental release or activation during work in a confined space.
Lower Exposure Limit (LEL)	In relation to a flammable gas, vapour or mist, means the concentration of the gas, vapour or mist in air below which the propagation of a flame does not occur on contact with an ignition source.
Officer	An officer under the WHS Act includes: <ul style="list-style-type: none"> <li>• an officer under section 9 of the Corporations Act 2001 (Cth)</li> <li>• an officer of the Crown within the meaning of section 247 of the WHS Act, and</li> <li>• an officer of a public authority within the meaning of section 252 of the WHS Act.</li> </ul> A partner in a partnership or an elected member of a local authority is not an officer while acting in that capacity.
Person conducting a business or undertaking (PCBU)	A PCBU is an umbrella concept that intends to capture all working arrangements or relationships. A PCBU includes a: <ul style="list-style-type: none"> <li>• company</li> <li>• unincorporated body or association, and</li> <li>• sole trader or self-employed person.</li> </ul> Individuals who are in a partnership that is conducting a business will individually and collectively be a PCBU. A volunteer association (defined under the WHS Act) or elected members of a local authority will not be a PCBU.
Person with management or control of a workplace	A person conducting a business or undertaking to the extent that the business or undertaking involves the management or control, in whole or in part, of the workplace. A person with management or control of a workplace does not include: <ul style="list-style-type: none"> <li>• the occupier of a residence, unless the residence is occupied for the purposes of, or as part of, the conduct of a business or undertaking, or</li> <li>• a prescribed person.</li> </ul>
Reasonably Practical	Reasonably practicable means that which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account and weighing up all relevant matters including: <ul style="list-style-type: none"> <li>• the likelihood of the hazard or the risk concerned occurring.</li> <li>• the degree of harm that might result from the hazard or the risk.</li> <li>• what the person concerned knows, or ought reasonably to know, about the hazard or risk, and ways of eliminating or minimising the risk.</li> <li>• the availability and suitability of ways to eliminate or minimise the risk, and</li> <li>• after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.</li> </ul>
Relevant Workers	Means a worker who could enter or work in a confined space, or other workers who are not required to enter the confined space but could carry out related functions or emergency procedures.
Risk	The possibility harm (death, injury or illness) might occur when exposed to a hazard.
RiskWare	Electronic database for the reporting of all incidents and near misses. RiskWare includes the investigation of incidents against systemic causes, the assignment of corrective actions, and regulatory and performance reporting.
Workplace	Any place where work is carried out for a business or undertaking and includes any place where an employee goes, or is likely to be, while at work. This may include offices, factories, shops, construction sites, vehicles, ships, aircraft or other mobile structures on land or water

## Section 3 - General Principles

(5) SCU minimises the risks arising from working in or near confined spaces to SCU employees, students, and visitors to workplaces by:

- a. Ensuring all employees have access to this procedure and will be inducted into the WHSMS.
- b. Ensuring each Work Unit maintains an up-to-date Confined Space Register.
- c. Ensuring confined space within each faculty is assessed for risks with controls in place.

(6) SCU will ensure that consultation occurs with employees and managers who may be accessing or affected by the confined space. SCU will consult with all contractors engaged to perform works on their behalf involving confined spaces. During the consultation, SCU will assess all contractor documentation applicable to the works, e.g., permits, licences, risk assessments etc.

(7) Confined spaces may pose a danger because they are not designed to be areas where people work. Hazards are not always obvious and may change, and the risks include loss of consciousness, impairment, injury or death. Many workplaces have confined spaces such as pits, drains and structural voids in buildings or equipment. They often have poor ventilation that can allow a hazardous atmosphere to develop quickly. The hazards are not always obvious and may change from one entry into the confined space to the next, depending on the workplace or environmental circumstances.

(8) The following kinds of workplaces are generally not confined spaces:

- a. Places intended for human occupancy.
- b. Some enclosed or partially enclosed spaces have harmful airborne contaminants but are designed for a person to occupy, for example, abrasive blasting or spray-painting booths.
- c. Enclosed or partially enclosed spaces that are designed to be occasionally occupied by a person, for example, a fumigated shipping container or a cool store.

### **Information, Instruction and Training**

(9) SCU must, so far as is reasonably practicable, ensure the provision of training, instruction, or supervision necessary to protect all persons from risks arising from work carried out as part of the conduct of SCU business.

(10) All employees and contractors with work activities related to confined spaces must be trained in confined space entry in order to be deemed a competent person and competent to perform those activities.

(11) The training must be from a Registered Training Organisation (RTO) accredited to deliver the below specific units of competency:

- a. RIIWHS202E - Enter and work in a confined space
- b. MSMPER200 - Work in accordance with an issued permit
- c. MSMWHS217 - Gas test atmospheres
- d. MSMWHS201 - Conduct hazard analysis
- e. MSMPER300 - Issue work permits

(12) SCU will ensure that the information, training, or instruction is suitable and adequate to address the nature of the work and the degree of risk, confirming employee understanding and application of controls.

### **Consultation**

(13) Consultation is required with a person who may be affected by any confined space work. People performing the work must receive all necessary training and access to the Confined Space Register, and the work should be documented.

(14) If there is more than one Person Conducting a Business or Undertaking (PCBU), for example, an electrical contractor, both must consult to coordinate activities to ensure all risks are known and controlled.

## Identifying confined spaces

(15) Based on Appendix A – How to determine a Confined Space, Property Services are to ensure all confined spaces are identified by engaging an external qualified provider.

### How to determine a confined space

(16) To assist with identifying confined spaces, listed below are common work areas that may meet the definition of confined spaces based on known risks:

- a. Vats,
- b. Tanks,
- c. Pipes,
- d. Flues,
- e. Chimneys,
- f. Silos,
- g. Containers,
- h. Pressure vessels,
- i. Underground sewers,
- j. Wet or Dry Wells,
- k. Shafts, Ducts
- l. Trenches (if there is a likely risk of airborne contaminants that may cause asphyxiation or loss of consciousness), Tunnels, Pits or Other Similar Enclosed or Partially Enclosed Structures.

(17) Figure 1 outlines the decision flow involved in identifying confined spaces (from NSW Code of Practice 2022).

(18) Generally, a confined space exists through the combination of factors: the structure and the circumstances. A confined space may only be deemed so under certain situations, and may only present a risk to workers once the space has been 'entered' (i.e., head or upper body is within the space).

(19) Ventilating or otherwise exchanging the hazardous atmosphere of a confined space does not declassify it. Only by undergoing structural changes and eliminating all hazards inherent with a confined space can it be declassified.

(20) Refer to: Code of Practice Confined Spaces, and AS/NZS 2865:2001 Safe working in a Confined Space

### Confined Spaces Register

(21) A confined space register records the confined spaces identified within a facility and will be maintained by the Work Unit and include the following requirements as a minimum:

- a. Date last inspected
- b. Location
- c. Current controls
- d. Planned or future controls (actions for improvements)

(22) Listing all control measures in an action plan format for reviewing effectiveness of control measures including the personal protective equipment inspections. The register must be reviewed annually by the Work Unit and updated as required with any addition, alteration, removal or change of environment, change to legislative requirements or as recommended by external qualified provider. The facility must ensure the register is accessible to the workers (including any contractors) at the site.

## **Confined Space Risk Management**

(23) The following risk management steps are required for confined spaces:

- a. Inspect each area under the control of the facility to identify confined spaces.
- b. Identify the potential hazards that workers may be exposed to when entering those confined spaces.
- c. Conduct a risk assessment on each type of confined space and recommend the controls.
- d. Implement a permit system and emergency procedures for confined space entry

### **Hazards Applicable to Confined Spaces**

(24) Restricted entry or exit – the location and characteristics of entry and exit points can impair rescue or otherwise introduce other hazards associated with accessing confined spaces, or getting equipment and tools in or out of confined spaces.

(25) Harmful airborne contaminants – substance(s) stored in the space or their byproducts (e.g., hydrogen sulfide), work done and materials used in the space (e.g., paints, adhesives), entry of natural contaminants (e.g., methane from groundwater), release of airborne contaminants (e.g., disturbed sludge or slurry), manufacturing processes (e.g., residues evaporating into gases), and entry/accumulation of gases and liquids (e.g., carbon monoxide from exhaust outlets).

(26) Unsafe oxygen levels – below 19.5% and above 23.5% oxygen mixtures.

(27) Fire and explosion – the presence of a flammable atmosphere, combined with an ignition source.

(28) Engulfment – the risk of substances within the confined space being released, resulting in immersion and potential asphyxiation or crushing injuries.

### **Related Hazards Likely to be Encountered in Confined Spaces**

(29) Uncontrolled introduction of substances – introduction of materials or substances from the system/processes connected to the confined space (e.g., steam, water, or other liquids, gases, or solids).

(30) Biological hazards – presence and contact with microorganisms such as viruses, bacteria, or fungi.

(31) Mechanical hazards – mechanical equipment present within the confined space that present a risk of entanglement, cutting, crushing, or piercing (e.g., augers, gears, blenders, agitators).

(32) Electrical hazards – electrical circuits and electrically powered plant within the confined space that may cause electrocution, shocks, and burns.

(33) Skin contact with substances – surface contaminants that may result in burns, irritation or other long-term health problems.

(34) Noise – loud noises generated by the plant, equipment or work conducted within the confined space.

(35) Environmental – extreme temperatures, slippery surfaces, and inadequate lighting.

(36) Traffic management – some confined space entry/exit points are located in or near live traffic.

(37) Falls from height – confined spaces can include vertical entry shafts or other structural features that increase the risk of falls from height.

## Additional Hazard Considerations

(38) Confined space work is a uniquely challenging type of work that carries unique difficulties associated with managing risk. These issues should be understood and included as part of the overall risk assessment through consultation with the worker(s) involved. Additional hazards may include:

- a. Harmful airborne contaminants

(39) The following table illustrates the kinds of harmful atmospheres that may be present in a confined space, and how they may be created.

Table 1: Sources of contaminants

Source of contaminant	Examples
Substance stored in the confined space or its by product(s)	<ul style="list-style-type: none"><li>• release of toxic substances e.g. hydrogen sulphide in tanks of decomposing organic material, especially when the material is disturbed</li><li>• build-up of hydrogen sulphide in sewers and pits.</li></ul>
Work performed in the confined space	<ul style="list-style-type: none"><li>• use of paints, adhesives, solvents or cleaning solutions</li><li>• welding or brazing with metals capable of producing toxic vapours or gases</li><li>• exhaust vapours or gases from engines used in the confined space</li><li>• painting or moulding glass-reinforced plastics.</li></ul>
Entry of natural contaminants, e.g. groundwater and gases, into the confined space from the surrounding land, soil or strata	<ul style="list-style-type: none"><li>• acid groundwater acting on limestone with the potential to produce dangerous accumulations of carbon dioxide</li><li>• methane released from groundwater and from decay of organic matter.</li></ul>
Release of airborne contaminants	<ul style="list-style-type: none"><li>• when sludge, slurry or other deposits are disturbed or when scale is removed.</li></ul>
Manufacturing process	<ul style="list-style-type: none"><li>• residues left in tanks, vessels etc or remaining on internal surfaces can evaporate into a vapour or gas.</li></ul>
Entry and accumulation of gases and liquids from adjacent plant, installations, services or processes	<ul style="list-style-type: none"><li>• the contamination of underground confined spaces by substances from plant in the vicinity of the confined space</li><li>• carbon monoxide from the exhaust of LPG-powered forklifts operating in, or in the vicinity of, the confined space.</li></ul>

## Unsafe oxygen level

(40) Air normally contains 21 per cent oxygen by volume, although oxygen levels of 19.5 per cent to 23.5 per cent by volume are considered to be safe.

(41) Some situations can cause the level of oxygen to dramatically decrease, leading to an oxygen deficient atmosphere and possible asphyxiation. This may occur if oxygen in the atmosphere is:

- a. displaced by gases produced during biological processes, for example methane in a sewer
- b. displaced during purging of a confined space with an inert gas to remove flammable or toxic vapours or gases
- c. depleted inside metal tanks and vessels through surface oxidation (for example when rust forms)
- d. consumed during combustion of flammable substances
- e. absorbed or reacts with grains, wood chips, soil or chemicals in sealed silos.

(42) Too much oxygen can increase the risk of fire or explosion. Oxygen-enriched atmospheres may occur if:

- a. chemical reactions cause the production of oxygen, for example certain reactions with hydrogen peroxide
- b. there is a leak of oxygen from an oxygen tank or fitting while using oxy-acetylene equipment.

(43) Refer to AS 1674 (Sets)1: Safety in welding and allied processes to cover circumstances where ignition source is

cutting, grinding or welding.

## **Fire and explosion**

(44) A fire or explosion requires the presence of three elements:

- a. an ignition source
- b. air
- c. a fuel (gas, vapour or mist) capable of igniting.

(45) A flammable atmosphere is one in which the flammable gas, vapour or mist is likely to exceed 5 percent of its lower explosive limit (LEL). Flammable atmospheres in confined spaces may result from the evaporation of a flammable residue, flammable materials used in the space, a chemical reaction (such as the formation of methane in sewers), or from the presence of combustible dust (such as that in flour and other grain silos and coal handling areas).

(46) If an ignition source, such as a sparking electrical tool or static on a person, is introduced into a space containing a flammable atmosphere, an explosion is likely to result. No ignition sources, including non-intrinsically safe electrical apparatus, are permitted within or in the vicinity of a confined space that an SCU employees will enter if that space may potentially contain a flammable or explosive atmosphere

## **Engulfment**

(47) Engulfment means to be swallowed up in or immersed by material, which may result in asphyxiation. Examples of materials that may pose a risk of engulfment include plastics, sand, liquids, fertiliser, grain, coal, coal products, fly ash, animal feed and sewage. Stored materials such as sand and grain can form a crust or bridge when a container is emptied from below, leaving the top layer in place.

(48) Workers walking on the crust or bridge or working below the bridge on the floor of a container/silo maybe engulfed in the crust breaks of the bridge collapses due to voids underneath the crust. The risk of engulfment needs to be assessed and controlled through the risk assessment process.

## **Uncontrolled introduction of substances**

(49) The uncontrolled introduction of substances such as steam, water or other liquids, gases or solids may result in drowning, immersion, being overcome by fumes (for example vision and odour impairment from hydrogen sulphide (H<sub>2</sub>S), inability to breathe due to fine grain or ceramic dust), or other harm depending on the nature of the substance.

(50) Combustible engines, vehicles and liquid petroleum gas (LPG) forklifts operating close to the opening of the confined space can cause a build-up of exhaust gases, including carbon monoxide, in the space.

## **Biological hazards**

(51) Contact with micro-organisms, such as viruses, bacteria or fungi, may result in infectious diseases, dermatitis or lung conditions such as hypersensitivity pneumonitis. Sewers, grain silos and manure pits are examples of confined spaces where biological hazards may be present.

## **Mechanical hazards**

(52) Exposure to mechanical hazards associated with plant may result in entanglement, crushing, cutting, piercing or shearing of parts of a person's body. Sources of mechanical hazards include plant such as augers, agitators, blenders, mixers and stirrers.

## **Electrical hazards**

(53) Electrical hazards may cause electrocution, shocks or burns, and can arise from cables, transformers, capacitors, relays, exposed terminals and wet surfaces where electrical circuits and electrically powered plant are used. Further guidance is available in the Managing electrical risks in the workplace Code of Practice.

### **Skin contact with hazardous substances**

(54) The nature of a confined space could give rise to an increased likelihood of skin contact with surface contaminants. Skin contact with hazardous substances may result in immediate health effects such as burns, irritation or allergic dermatitis, or longer-term systemic effects.

### **Noise**

(55) Noise generated in a confined space from the use of plant, the work method or process may be amplified due to reflections off hard surfaces. Exposure to hazardous noise may result in hearing loss, tinnitus and other non-auditory health effects. Hazardous noise may also prevent workers from hearing warning signals and distract workers from their work. Further guidance is available in the Managing noise and preventing hearing loss at work Code of Practice.

### **Manual tasks**

(56) Hazards arising from manual tasks may be exacerbated by physical constraints associated with working in a confined space. Additional hazards may arise from the use of personal protective equipment (PPE) that restricts movement, grip and mobility. Further guidance is available in the Hazardous manual tasks Code of Practice.

### **Radiation**

(57) The health effects associated with radiation depend on the type of radiation involved. Sources of radiation include radioactive sources, X-rays, lasers, welding flash, radio frequency and microwaves.

### **Environmental hazards**

(58) Environmental hazards associated with work in a confined space may cause or contribute to harm. Examples of environmental hazards include:

- a. heat or cold stress arising from the work, process or conditions
- b. slips, trips and falls arising from slippery surfaces or obstacles
- c. inadequate lighting.

(59) Hazards outside the confined space

(60) Where the confined space has a vertical opening, there is a risk that people could fall in. Traffic hazards are a concern where confined space entrances or exits are located on footpaths or roads. There is the potential for workers entering or exiting the space to be struck and injured by vehicle traffic. Work done outside the space, but near openings to it, can contaminate the atmosphere inside the space. A common example is the exhaust gases from an internal combustion engine. There may also be potential for fire or explosion where hot work is done in areas next to confined spaces that contain flammable atmospheres.

### **Additional physiological and psychological demands**

(61) Working in a confined space may impose additional physiological and psychological demands over and above those encountered in a normal working environment. Consideration should be given to an employees:

- a. physical ability
- b. ability to work in a restrictive space (for example claustrophobia)
- c. ability to wear the PPE required to do the work (for example respirators).



## **Completing Risk Assessments**

(62) The Property Services team and/or the confined space entry permit issuer is responsible for ensuring all identified Confined Spaces have a risk assessment conducted by a competent person. The WHSMP02 - FOR - 01 - Hazard Identification, Risk Assessment and Control Tool must be completed for a particular job the workers are going to carry out prior to commencing work in or near a confined space.

(63) The following factors should be considered when undertaking a risk assessment relating to confined space work:

- a. Engulfment risk
- b. Number of people occupying the confined space
- c. The integrity of the structure
- d. The need for adequate lighting
- e. Identification of the last substance stored in the confined space, and its hazard properties/profile
- f. Any measures needed to bring the space up to and maintain a regular atmospheric pressure
- g. Other likely hazards in or near the confined space (e.g., noise, electricity), and additional risk control measures that might be needed
- h. Emergency response plans and arrangements, including availability of PPE and rescue gear
- i. The physiological and psychological demands of the confined space work
- j. Adequate training, instruction, and supervision of the persons involved in the work (e.g., limits on what PPE or procedures can be applied)
- k. Purging or cleaning requirements prior to entry
- l. Conditions or characteristics that could impact entry and exit of the confined space

(64) The risk assessment must be kept for 28 days after the work has been completed, or if a notifiable incident occurs in connection with the work to which the assessment relates, for at least 2 years after the notifiable incident occurs.

(65) A single (or generic) risk assessment may be carried out for a class of confined spaces in many different work areas or workplaces where the confined spaces are the same. This will only be appropriate if all of hazards, tasks and circumstances covered by the risk assessment are the same. A risk assessment must be carried out on individual confined spaces if the hazards, tasks or circumstances are different and a worker may be exposed to greater, additional or different tasks.

## **Developing and implementing Risk Controls**

(66) There are a range of risk controls that can be implemented to reduce the risk to workers and others in relation to confined spaces. When conducting Risk Assessments and completing a Confined Spaces Entry Permits, the Confined Spaces Control Guide (Appendix B) is to be used to help identify appropriate controls for the identified risks.

(67) Some risk controls are mandatory and must be implemented:

- a. Entry Permits (issued by a competent person who has completed confined space permit issuer training) which should include the confined space to which it relates, the full name of the person/s entering, the reason for entry, the risk control measures (including specific emergency equipment), details about the systems of work, safe entry processes, and the duration of the permit.

(68) The permit should also include a section that is completed once the works have been completed and all persons have safely exited the confined space.

(69) Permits must be retained at least until the works have been completed, or if a notifiable incident has occurred, for

a at least two years after the event.

(70) Atmospheric testing and monitoring – must be carried out in accordance with exposure standards if:

- a. There is uncertainty about whether or not the airborne contaminant exceeds the exposure standard, or,
- b. Monitoring is needed to determine health risk

(71) Testing and monitoring must assess the atmosphere for oxygen content, concentration of flammable contaminants, and concentration of harmful contaminants (e.g., carbon monoxide)

(72) Initial testing must be conducted from outside the confined space using a suitable probe that can sample each major part of the confined space (to assess contaminants that settle at different levels).

**Isolation / lock out (all potentially hazardous services are isolated prior to any person entering the confined space).**

(73) Pipe work should be physically isolated such as locking, tagging, closing and/or blanking, and verified through supervision and/or checking.

(74) Alternative methods of isolation may be used, but must demonstrate equivalent or better effectiveness than the ones listed above.

(75) The possibility of mechanical movement or stored energy must be eliminated if present within the confined space (e.g., reduced to zero energy state, or chocked, wedged, chained, or removed).

(76) Entry and exit procedures (to identify when workers are in the confined space), such as tags, sign-in/out on the entry permit, and/or be accounted for by a standby person.

(77) Signs and barricades (to restrict access to unauthorised persons), which must warn against entry of persons other than those listed on the entry permit and placed at each entry/exit point.

(78) Signage alone cannot be relied on to exclude persons from the space – physical locks and barriers must also be used.

(79) Communication and safety monitoring (to maintain positive communications between workers inside and outside the confined space) A standby or spotter worker must be allocated to continuously evaluate the wellbeing and safety of workers inside the confined space.

(80) The standby person must know the nature of hazards inside the confined space, remain outside the space, have ready access to all required rescue equipment, have authority to order the evacuation of a confined space, and not attempt rescue.

(81) Continuous communication protocols must be established before works commence, and may include verbal communication, hand signals, radio communications, or other methods that enables help and emergency procedures to be activated quickly if needed.

(82) Respiratory protective equipment appropriate to workers' needs, the hazard/s present, and the tasks requirements, must be used when working in a confined space with an oxygen level of 19.5% or lower by volume.

(83) Purging or ventilation of contaminants must be conducted as per AS/NZS2865 Safe Working in a Confined Space, so far as is reasonably practicable, with the gas mixture not exceeding 21% oxygen by volume.

(84) Purging must be followed by adequate ventilation using fresh air.

(85) Purging must manage the risk of contaminants being relocated or redirected to other areas and presenting a hazard to others.

### **Completing Safe Work Method Statements (SWMS)**

(86) The competent person issuing the confined space entry permit are responsible for ensuring all identified confined spaces have a SWMS documented by a competent person prior to work commencing in or around the confined space.

(87) A copy of the SWMS must be retained for the duration of the work. If a notifiable incident occurs, the Safe Work Method Statement must be kept for at least two years from the date of the notifiable incident.

### **Barricades and Signage**

(88) Entry points to a Confined Space shall be signed or, in the case of pits, marked around the pit opening.

(89) Confined Spaces shall be identified in accordance with Figure 1 and displayed signage in accordance with the requirements of AS 1319-1994 Safety Signs for the Occupational Environment. Areas where it is not practicable to display and maintain signage as below will be identified with stencilled signage displaying wording as in Figure 2.

### **Issuing of Confined Spaces Entry Permit**

(90) Before workers can enter a confined space, an entry permit (WHSMP09 - FOR - 05 Confined Space Entry Permit) must be issued for the confined space and can only be issued by a competent person who has completed confined space permit issuer training.

### **Rules to issuing Entry permit**

(91) Only issued by a competent person who has completed confined space permit issuer training.

(92) Must be issued for each entry into the confined space.

(93) Each permit only applies to one confined space and allows one or more workers to enter that space.

(94) The permit must be kept until the work is completed, or if a notifiable incident occurs, for at least 2 years after the confined space work to which the permit relates is completed.

### **Maintenance and inspection of personal protective equipment**

(95) Personal Protective Equipment (PPE) should be maintained in accordance with manufacturer's requirements. PPE should be inspected prior to use and scheduled inspection in accordance with manufacturer's requirements and HRP15: Personal Protective Equipment.

### **Restricted Access to Confined Spaces (Security)**

(96) Property Services and/or the confined space entry permit issuer will ensure that confined spaces are secured, as far as is reasonably practicable, to prevent unauthorised or inadvertent access. Confined space access points shall be fitted with lids or covers that are locked or secured with devices requiring tools to remove, or their physical size or weight can only be removed by authorised persons. Devices used to secure confined spaces should not introduce additional hazards.

### **Developing and implementing Emergency Procedures**

(97) Emergency and communication procedures must be in place as part of the conditions of issuing a Confined Space Entry Permit and must align with the relevant Code of Practice. The emergency procedures must be completed each time a Confined Space Entry Permit is issued. The emergency responders must be adequately trained and have the emergency equipment present at the work site. Considerations must be made during the design of emergency

procedures as follows:

- a. Location of the confined space (accessibility, proximity to medical services)
- b. Communications (how can workers maintain contact, how will alarms be signalled)
- c. Rescue and first-aid equipment (what emergency scenarios are possible, and has suitable equipment been identified and obtained)
- d. Rescuer competencies and capabilities
- e. First-aid availability and appropriateness
- f. Local emergency services
- g. Size of entry and exit points (with inadequate access rectified or alternative entry/exit points installed)
- h. How rescue will be undertaken (ideally from the outside, if possible)
- i. The availability of air-supplied respiratory equipment (AS/NZS 1715 standard) and air supplied to air-supplied respiratory equipment (AS/NZS 1716 standard) for rescue operations

(98) Emergency procedures should be rehearsed to ensure effectiveness. An emergency rescue plan must be completed, and a template is available (WHSMP09 - FOR - 07 Confined Spaces Rescue Plan).

#### **Audit**

(99) Compliance with this procedure is audited according to the WHSMP15: WHS Audit and Assurance Procedure.

## **Section 4 - Roles and Responsibilities**

(100) Refer to [WHSMP13: Responsibility and Accountability Statement](#).

## **Section 5 - Records of Documentation**

(101) All relevant documentation will be recorded and kept in accordance with WHS Legislation and other legislative obligations including:

- a. Confined space records must be kept, e.g., Confined space risk assessments, plant pre-acceptance, and pre-operational inspections.
- b. Any records installations, alteration and removal of regulatory signs and devices must be maintained and stored appropriately.
- c. Records of hours of operation and surface conditions are to be noted daily and maintained.
- d. Training records must be kept for two years.
- e. Risk assessment must be kept for 28 days after the work to which it relates is completed.
- f. Confined space entry permit kept until the work it relates to is completed.
- g. Notifiable incident: all records must be kept for two years after the incident.
- h. Risk assessment and entry permits will be retained for two years following a confined space incident.

## **Section 6 - Revision and approval history**

(102) This procedure will be reviewed as per nominated review dates or because of other events, such as:

- a. Internal and external audit outcomes.
- b. Legislative changes.

- c. Outcomes from management reviews.
- d. Incidents.

## Section 7 - References

<a href="#">Work Health and Safety Act 2011</a>
Work Health and Safety Regulation 2011 (QLD) 2017 (NSW)
Confined Spaces Code of Practice. 2021 (QLD) 2022(NSW)
AS 2865-2009 Confined Spaces
AS 1319-1994 Safety signs for the occupational environment
AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment
WHSMP09 - FOR - 05 Confined Space Entry Permit
WHSMP09 - FOR - 07 Confined Spaces Rescue Plan

## Section 8 - Related Documents

WHSMP02 - FOR - 01 - Hazard Identification, Risk Assessment and Control Tool
WHSMP09 - FOR - 05 Confined Space Entry Permit
WHSMP09 - FOR - 07 Confined Spaces Rescue Plan
<a href="#">WHSMP13: Responsibility and Accountability Statement</a>
<a href="#">HRP15: Personal Protective Equipment</a>

Appendix A - Confined Space Criteria						Confined Space?	
Example of the space and activity	A	B	C	D			If the answer to A, B, C and at least one of D is yes, then the space is a confined space.
	Is the space enclosed or partially enclosed?	Is the space not designed or intended to be occupied by a person?	Is the space designed or intended to be, at normal atmospheric pressure while any person is in the space?	Does the space present a risk from:			
				Harmful airborne or flammable contaminants	An unsafe oxygen level	Engulfment	
Sewer with access via vertical ladder							Yes
Entering a shipping container to unload or inspect goods							No

Dislodging a sludge blockage in a drain pit							Yes
Inspection of a used tank before decommissioning							Yes

Appendix B - Examples of Hierarchy of Control			
Safety Measures	Explanation	Current Control	Required Control
Elimination: Eliminate the source or task	Work carried out from outside the confined space by:		
	installing fixed or temporary cleaning devices for example spray balls using high-pressure hoses inserted through an access hatch to clean the inside of a tank		
	using remote cameras or a mirror attached to a probe for internal inspection of vessels		
	using remotely operated rotating flail devices, vibrators or air purges to clear blockages in silos		
	Using a hook, long-handled clasp or magnet on a string to retrieve an object dropped into a confined space.		
Substitution: Use a safe way of doing the task	Undertake work away from the confined space : Can the time working in the confined space be reduced by performing some of the task away from the confined space		
	Review of tasks, tools and equipment to be used in the confined space. I.e. Not welding in an area with flammable gas vapours.		
Isolation: Separate people or property from the confined space	Controlled access Has area been restricted so unauthorised persons cannot enter, i.e. locks, fencing		
	Lock out system / Isolate Must be in place if the work includes any of the following potentially hazardous services : <ul style="list-style-type: none"> <li>the introduction of contaminants or conditions through piping, ducts, vents, drains, conveyors, service pipes and fire protection equipment</li> <li>the activation or energising of machinery in the confined space</li> <li>the activation of plant or services outside the confined space that could adversely affect the space (for example heating or refrigerating methods)</li> <li>the release of any stored or potential energy in plant</li> <li>the inadvertent use of electrical equipment</li> <li>If liquids, gases or vapours could enter the confined</li> </ul>		

Safety Measures	Explanation	Current Control	Required Control
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<p>Administration: Use safe work practices, systems and training.</p>	<p>Confined space entry permit  Confined space entry training  Confined space emergency procedures  Confined Spaces Authorising Officers  Safety signage, Warning Signs  Risk assessments  Confined spaces register  <a href="#">[KB1]</a> <a href="#">[RS2]</a>  Restricted access  Effective Communication System  Supervision  Safe Work Procedure  Emergency and Rescue Procedures  Fire Fighting Equipment  Training in emergency procedures for workers.</p>		
<p>Personal Protective Equipment (PPE): Provide protective clothing and equipment for employees, supervisors and visitors. NB: items must be appropriate for the task/equipment being undertaken or operated.</p>	<p>Respiratory protective equipment  Helmets, Gloves, Eye Protection, Footwear, Torch, etc.</p>		

## Status and Details

<b>Status</b>	Current
<b>Effective Date</b>	9th December 2024
<b>Review Date</b>	9th December 2027
<b>Approval Authority</b>	Vice President (People and Culture)
<b>Approval Date</b>	9th December 2024
<b>Expiry Date</b>	Not Applicable
<b>Responsible Executive</b>	Kim Franks Vice President (People and Culture)
<b>Head of Work Unit</b>	Brendan Pearce Director, Workplace Relations
<b>Enquiries Contact</b>	Shaun Brown Manager, Workplace Health and Safety <hr/> Vice President (People and Culture) portfolio