

C5 - Confined spaces

1 Scope

This standard is applicable to all Rio Tinto business units and managed operations, including new acquisitions, admin/corporate offices and research facilities located off site; during exploration, through all development phases and construction, operation to closure and - where applicable - for post closure management.

1.1 **Confined space** is an enclosed or partially enclosed space that:

- a) has been identified as such in a risk assessment;
- b) is not intended or designed primarily as place of work;
- c) may have restricted entry and exit; and
- d) may:
 - (i) have an atmosphere which contains potentially harmful levels of contaminant or explosive atmospheres;
 - (ii) not have a safe level of oxygen eg following a nitrogen purge;
or
 - (iii) cause entrapment or engulfment.

1.2 Confined spaces may include, but are not limited to:

- a) storage tanks, process vessels, boilers, pressure vessels, tank-like compartments that have only a manhole for entry, ceiling and floor spaces;
 - b) open-topped spaces such as pits, or grease traps, or excavations more than 1.5 metres deep;
 - c) pipes, pumps, sewers, shafts, ducts, drains, tunnels, cellars, basements and similar structures; and
 - d) abandoned workings and exploration audits.
- 1.3 **Contaminant** is any dust, fume, mist, vapour, gas, or other substance in liquid or solid form, the presence of which may be harmful to health and safety.
- 1.4 **Entry to confined space** occurs when a person's whole body, upper body or head is within the confined space. However, this is not intended to prevent a person from inserting their hand or arm while holding a test instrument or probe into a confined space as part of the evaluation procedure provided that this procedure is duly authorised.

2. Identification

- 2.1 Confined spaces must be identified and permanent signage erected at the entry points denoting that a permit is required prior to entry. Where signage is impractical, for example with adits other means of highlighting the dangers need to be used.

3 Permit system

- 3.1 Entry to a confined space must only be allowed after a written approval, in the form of a permit, has been issued by a competent person, whom is authorised to issue such permits.
- 3.2 The permitting process must include the following elements:
- a) a risk assessment, including the need for a competent person to assess such things as oxygen levels, contaminants, temperature extremes, and concentrations of flammable substances;
 - b) isolation procedures for contaminants and other energy sources;
 - c) the requirement for breathing apparatus;
 - d) the sign-in and sign-out of all persons entering the confined space;
 - e) display of the permit;
 - f) communication process and/or equipment between standby person and personnel within confined space;
 - g) safety specification of equipment to be taken into the confined space;
 - h) barricading;
 - i) rescue plan and equipment;

j) standby person; and

k) a completion procedure.

4 Other requirements

- 4.1 All persons required to work in a confined space, or to act as a standby person, must be trained, competent and tested.
- 4.2 Specific safe work procedures must be developed for work activities that are more hazardous when carried out in a confined space than elsewhere. These activities would include hot work (cutting and welding), chemical cleaning, steam cleaning, and abrasive blasting.
- 4.3 The standby person will have no other duties and is to be positioned outside the confined space entry point at all times while personnel are within the space.
- 4.4 Where the risk assessment has identified the need for ventilation, then this must be covered by a documented procedure.

5 Revision history

Version no.	Effective date	Prepared by	Authorised by	
1	Jan 2001	CEO Safety Adviser	ExCo	
Version no.	Revision date	Revised by	Authorised by	Reason for change
2	December 2008	Paul Dewar; Adrian van Tonder	Rob Davies	Incorporation of suggested changes from operations and alignment with HSEQ management system.