

C1 – Isolation

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 This standard applies to all sources of hazardous energy and hazardous substances.
- 1.2 **Hazardous energy:** For example electrical, pneumatic, hydraulic, stored (springs, batteries), potential (by virtue of position), gravitational, heat (hot water, steam), radiation.
- 1.3 **Hazardous substances:** For example, gases, vapours, liquids, dusts with the potential to cause injury or illness, eg toxic, corrosive or flammable.
- 1.4 **Isolation officer:** Whenever a piece of plant or equipment is to be isolated, there must be a person designated to carry out the Isolation procedure. That person is referred to as the Isolation officer. No person may be designated as the Isolation officer for a piece of equipment unless s/he has been trained, tested and certified as competent to carry out the Isolation procedure for that piece of plant or equipment. Tests for voltage, for example,

require competency in electrical work as outlined in the electrical standard.

- 1.5 **Isolation procedure:** All designated systems, plant and equipment must have written procedures for isolation. (see Rio Tinto Standard A1.3.1). This procedure will set out how the system, plant or equipment is to be made safe and kept safe. It will include, for example: decontamination; venting of stored energy; securing of rotors or fan blades; chocking of vehicles; and disconnecting, blocking or bleeding of equipment, cables, pipes and vessels. It will show any connections to Distributed control systems. It will also show the isolation points for lockout and test procedures.

2 Isolation officer's responsibility

- 2.1 Before any work is begun on or in a system, plant or equipment, the Isolation officer must first ensure that it is made safe in accordance with the Isolation procedure.
- 2.2 The Isolation officer's lock and identification tag must be the first to be applied and the last to be removed.
- 2.3 a) The Isolation officer's lock must be a master series lock since it will remain on the plant or equipment when handing over to subsequent shifts. Keys to the Isolation officer's lock must only be held by other designated Isolation officers; and
- b) where isolation involves only one person on jobs to be completed within a single shift and where it is not appropriate for a master series lock to be utilised, the person must be an

- Isolation officer and s/he must apply his/her personal lock and identification tag.
- 2.4 After locking and tagging, the Isolation officer must clear the area of personnel before a trial step to ensure that the plant or equipment has been isolated.
 - 2.5 In the case of electrical isolation, a test for voltage must be carried out, after the switching device, to ensure the absence of voltage.
 - 2.6 Where there is a need for work to extend over multiple shifts or where there are large numbers of people involved in the work (such as large maintenance projects) then a project isolation procedure can be implemented. This procedure must, however, have the requirements that personal locks must be used for each person working on the project, an Isolation officer's control lock is in place and this control lock cannot be unlocked without all personal locks being removed.
 - 2.7 Where it is necessary to work on live equipment for the purposes of commissioning, testing, sampling and adjustments, such work shall be carried out in accordance with a written procedure. The written procedure shall require:
 - a) an isolation officer to confirm effectiveness of controls associated with the live work area; and
 - b) the work area is controlled to prevent unauthorised access.

3 Everyone's responsibility

- 3.1 Everyone, including the Isolation officer, who has to perform work on the plant, equipment or system, must first apply a personal lock and identification tag in accordance with the Isolation procedure.
- 3.2 Personal locks must be such that they can only be unlocked by their owner.
- 3.3 Personal locks may never be removed other than by the person to whom they belong, other than in the presence of and under the supervision of the department or area manager or his/her appointed nominee, and in accordance with a written procedure.

4 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.