

## Group Standard

### H6 - Radiation exposure control

Group standard	Title: <b>Radiation exposure control</b>			
	Function: <b>Health, Safety, Environment and Communities (HSEC)</b>			
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Owner: <b>Global head of Health, Safety, Environment and Communities</b>		Approver: <b>Executive Committee</b>		Target Audience: <b>All Rio Tinto staff and each Rio Tinto Group business and function</b>
Direct Linkages to other relevant Policies, Standards, Procedures or Guidance notes:  <b>Rio Tinto management system, Workplace health exposure monitoring Group procedure, Health and medical monitoring Group procedure, Manage protective equipment Group procedure.</b>				
Document purpose:  <b>To support implementation of the Group Occupational Health and Safety policy. It defines the minimum acceptable requirements for behaviours and/or conditions in respect of managing the potential for occupational health impacts associated with workplace radiation exposures, which, if not met, could materially impact the Group.</b>				

# H6 - Radiation exposure control

## Intent and scope

This standard applies to employees and contractors working at all Rio Tinto business units and managed operations, through all stages of their lifecycle from exploration through to closure. It covers workplace radiation hazard identification, exposure evaluation and controls. It includes both ionising and non-ionising radiation, whether natural or man-made.

The intent is to:

- Manage occupational exposures to radiation hazards to prevent occupational illness.
- Assist compliance with local legal requirements and industry standards.

This standard is risk based and applies where there is a high or critical risk of harmful effect. It also applies where a relevant exposure standard is exceeded.

## Control requirements

Requirements in this standard apply in addition to any defined in the Rio Tinto management system.

### Planning

- 1.1 Risk assessment, measurement and control of workplace radiation hazards must be conducted by a competent person.
- 1.2 Operations must have a register of relevant types and quantities of radiation sources that they manage, where the sources have a potential harmful effect. It will include radiation source type, type of radiation, strength and unit/material location.
- 1.3 Defined areas requiring restricted or controlled access must be established where:
  - a) ionising radiation annual doses are greater than 5 milli-Sieverts (mSv); or
  - b) radon levels in underground environments are greater than the International Commission on Radiological Protection (ICRP) action levels.
- 1.4 There must be design criteria to reduce radiation hazard exposure risk for the purchase or build of new workplace equipment. This also applies to changes to existing equipment.

### Implementation and operation

- 1.5 Where there is a legal requirement or risk assessment indicates the need, a documented radiation protection programme (RPP) must be developed to:
  - a) eliminate or reduce exposures to as low as reasonably practicable (ALARP) levels;
  - b) define and document duties and responsibilities; and
  - c) provide education regarding radiation safety.
- 1.6 Where required, an ionising RPP must be implemented to meet all regulatory requirements or the requirements of the ICRP. It must include procedures for transport, inventory control, disposal and communication of restricted or controlled areas. There must be a trained radiation safety officer or ready access to a trained radiation protection consultant.
- 1.7 There must be documented procedures for the inspection, assessment and maintenance of ionising radiation controls. These controls must be assessed annually for high and critical risks, and three yearly for low and moderate risks to ensure their continued effectiveness.
- 1.8 Where restricted or controlled radiation areas are defined in underground environments, engineering controls including mine ventilation to minimise radiation levels must be implemented.

- 1.9 Emergency procedures must be developed where there is a potential for a high or critical risk of ionising radiation incidents, such as fire and explosions.
- 1.10 Where higher levels of control cannot provide adequate protection, PPE must be implemented as per the Manage protective equipment Group procedure. Only operation-approved PPE shall be used.

## **Monitoring**

- 1.11 Radiation monitoring must meet the requirements of the Workplace health exposure monitoring Group procedure.
- 1.12 Medical surveillance and / or biological monitoring programmes must meet the requirements of the Health and medical monitoring Group procedure.
- 1.13 Underground operations must have a baseline radon survey. This survey must be repeated every two years if radon levels exceed ICRP action levels.
- 1.14 Where a risk of ionising radiation exposure exists, work areas must be surveyed and exposure sources/levels quantified. Leak (wipe) tests must be conducted annually on sealed radioactive equipment.
- 1.15 Periodic personal radiation monitoring (dose assessment) must occur when potential exposure exceeds 5 mSv per annum and for designated radiation workers. Medical surveillance must occur:
  - a) to determine fitness for wearing respiratory protection;
  - b) periodically when the 5 mSv dose limit has been exceeded; and
  - c) on leaving employment.