

B2 - Hearing conservation

1 Scope

This standard is applicable to all Rio Tinto business units and managed operations, including new acquisitions, administration/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. It applies only to noise exposures in the workplace. It covers noise hazard evaluation, control programme design and control programme evaluation (audiometric surveillance), to ensure that employees and contractors will not suffer adverse health effects from noise generated by the business.

2 Programme design

2.1 Deleted.

2.2 Designated areas will be created where:

a) it is likely that the 95 per cent upper confidence limit (UCL) of an eight hour L_{eq} mean exceeds 85 dB(A); or

b) impulse noise exceeds 140 dB(C).

2.3 Designated areas must:

a) be identified and mapped, signposted or otherwise clearly communicated to employees working in the area. Signposting,

- where necessary, must use appropriate wording or symbols on signs to identify the hazard;
- b) have a documented hearing conservation programme based on suitable risk assessment and standards, which is applied to employees, contractors and visitors;
 - c) have regular monitoring of SEGs working in the area; and
 - d) have a formal review of the practicality of engineering controls at least every two years, or less where it is a critical control for a significant risk.
- 2.4 Monitoring must be based on the use of a dosimeter or sound level meter (SLM), with 3 dB exchange rate, and A-weighting and impulse noise measurement capability, calibrated as per the manufacturer's methods.
- 2.5 Employees and Category 1 contractors whose eight-hour L_{eq} exceeds 85 dB(A), or impulse noise exposure exceeds 140 dB(C), must be offered and encouraged to undergo annual audiometry. The results should be discussed with the worker.

3 Audiometry programme

- 3.1 Where an audiometry programme is indicated, it must meet the following standards:
- a) all testing must be by pure tone audiometry in an audiometry booth or quiet room, with measured noise levels less than 40 dB(A);

b) the initial audiogram must be taken prior (minimum of 24 hours) to exposure to significant noise. Further audiograms must be taken periodically; annually where exposures are over 85 dB(A) L_{eq} or where continued deterioration to hearing is occurring;

c) testing must be performed by trained and competent personnel;

d) audiometers must be calibrated according to the manufacturer's guidelines. As a minimum these will be a weekly biological calibration using a member of staff unexposed to noise, or a bio-acoustic simulator, and an annual quantitative check. All results must be documented; and

e) audiograms must be read by trained persons who will identify any increasing hearing loss and then determine if this is noise induced. Any employee with a significant downward shift in one or both ears (measured as an average non age-adjusted loss from baseline of 10 dB at 2, 3 and 4 kHz) must be retested following removal from noise for a minimum of 24 hours, usually after a days-off period. If the downward shift persists the employee must be reviewed by a physician and improved hearing protection considered.

4 Exposure controls

4.1 Deleted.

4.2 Deleted.

4.3 Deleted.

4.4 Where required, training in the recognition of signs and symptoms of hazardous noise exposure and preventative measures must be provided. Training will begin after hire and continue with regular refresher training provided according to regulatory requirements or at least once every three years.

4.5 Hearing protection devices (HPDs) must be selected with regard to the potential type and loudness of noise likely, comfort, and compatibility with the work tasks and other PPE. No employee should be exposed to more than 82 dB(A) at the ear while wearing a HPD, as determined over an eight hour equivalent shift. Only operation-approved HPDs will be used.

Revision history

Version no.	Effective date	Prepared by	Authorised by	
1	Feb 2003	Richard Gaunt & Ian Firth	ExCo	
Version no.	Revision date	Revised by	Authorised by	Reason for change
5	December 2008	Ian Firth; Adrian van Tonder	Manoel Arruda	Incorporation of suggested changes from operations and alignment with HSEQ management system.